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Paper Merchants Hold Successful Fall Meeting

Approximately Three Hundred Members of National Paper Trade Association Attend Autumn Convention In Chicago—Clearer Understanding of Paper Distributors Code and What It Hopes to Accomplish In Future Comprise Major Objectives of Gatherings—President A. W. Leslie Pleads for Co-Operation In Spirited Address

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., October 1, 1934—The event of by far the major importance in the Chicago paper market during the week was the Fall Meeting of the National Paper Trade Association held September 24, 25 and 26 at the Stevens Hotel, Chicago. Very nearly three hundred were registered or attended the series of meetings which had for their major objective a clearer understanding of the paper trade code and a more concise explanation of what it hoped to accomplish in the future. A. H. Chamberlain, executive secretary, had charge of all arrangements and of the continuity of the discussions which were described as effective and resultful as any similar sessions held in the history of the organization.

Joint Meeting Held

A number of sessions stood out in importance from the remainder of the program—the Joint Meeting on the morning of September 24; the address by Frank H. Crockard on Tuesday morning and the remarks made by W. W. Pickard on the afternoon of September 25 attracting unusually large audiences. Meetings of committees occupied the early opening hours of the three-day meeting with R. M. Beckwith, chairman of the Joint Survey Committee, getting things under way at nine in the morning. The Gummed Tape Meeting, C. W. Andrews, Jr., chairman; Manufacturers Contact Committee (Fine), O. F. Marquardt, chairman; Wrapping Paper meeting, L. S. Altholtz, chairman and the Cover and Text Committee, with W. W. White, chairman, were held at a similar hour. The Writing Paper Committee, Code Authority Differentials Conference Committee and Direct Selling Committees met an hour later with P. A. Harris in charge. Other morning meetings featured the Tissue and Bristol, Blanks, Board and Tag Committee sessions with F. B. Tracy and J. P. Cunningham in charge.

The afternoon of September 24 was given over to committee meetings with the following holding interesting sessions largely built around code matters: Bag, James S. Danehy, chairman; Book Paper, G. G. Cobean; Offset, A. M. Miller; Ground Wood and Newsprint, G. G. Cobean; Blotting, W. N. Gillett; Envelope, J. D. Swigart; Specialties, A. D. Riley, and Twine, G. W. T. Skinner. On Monday evening, September 24, the Executive Committee of the Fine and Wrapping Paper Divisions held separate sessions, with O. F. Marquardt and H. L. Zellerbach the respective chairmen in charge. A Box Papers meeting and the regular session of the Board of Directors, with A. W. Leslie presiding, concluded the initial day's program.

Code Problems Discussed

Code matters were of major importance on September 25 when the entire morning session was given over to this subject. The Code Authority conducted the meeting which included an address by Frank H. Crockard, Deputy Administrator in charge of the Wholesale Section of Division 4, and the introduction of George Akerson, recently appointed Executive Secretary of the Code Authority. Reports by members of the Code Authority on Administration, the present situation and outlook, the future and the problem of code financing, served to bring out a number of very important points which, when coupled with the interesting remarks of the Counsel, J. K. Javits, clearly indicated the position of the association in Code matters. The association obviously believes the Code on trial and asks patience from its members, urges them not to get discouraged and that the Code can, if properly supported, eliminate the chiseler and bring stability and prosperity to the Trade. A splendid treatise "Turn To The Right," was widely distributed at the meeting as indicative of the association's hopes in code matters. One paragraph is especially significant as pointing out the trend of the meetings. It read:

"Does any one think the Paper Trade will ever revert to a struggle of individuals, each striving to prosper at the expense of the others on the principle of survival of the strong? Does any one think the Paper Trade has not learned to make common cause against encroachments from without or to use its collective strength to prevent unfair treatment and secure recognition of its needs. . . . Paper merchants know each other more than ever before. They have been sincerely striving to help each other. They are better friends. They have found that the lone wolf is a predatory beast and not a fair and

(Continued on page 20)

Northwest Paper Mill Superintendents Meet

Fall Meeting, Held at Wausau, Wis., Proves Successful and Enjoyable Gathering—M. J. Ketter, General Superintendent of Hoberg Paper & Fiber Co., Green Bay, Elected Chairman of Division for Coming Year—Mill Problems Thoroughly Discussed

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 1, 1934—With an attendance of 146 representatives of the industry, and 48 women, the fall meeting of the Northwest Division of the American Pulp and Paper Mill Superintendents Association at Wausau, Wis., on Friday and Saturday, September 21 and 22 proved a successful and enjoyable gathering. Committees made up from mills in the Wisconsin River section did their utmost to make the stay of the visitors pleasant and profitable.

M. J. Ketter, general superintendent of the Hoberg Paper and Fibre Company, Green Bay, Wis., was elected chairman of the division for the coming year. Levi LeRoux, general superintendent of the Little Falls Paper Company, Little Falls, Minn., was chosen vice chairman, and the secretary-treasurer is Edward Den Doven, of the Hoberg company. They were elected at the Saturday session following the report of the nominating committee, consisting of F. C. Boyce, of Brokaw, Wis.; R. H. Kelley of Wausau, Wis.; and F. J. Timmerman, of the Northern Paper Mills, Green Bay, Wis.

Joint Luncheon Held

Those who had reached Wausau at noon on Friday were guests at joint luncheon with the women at Hotel Wausau The program was devoted entirely to entertainment, with an informative talk on flying by Hugh Herndon, Jr., widely known aviator, and songs and witticisms by Billie Vallie, who played with Al Jolson in the motion picture, "Sonny Boy." Both entertainers were so delightful they were awarded honorary memberships in the association.

Most of the program for the afternoon was concerned with mill problems, with much free discussion. One point which came in for a lengthy argument was the matter of preparing paper for shipment. I. L. Meyers of Chicago, led the discussion, pointing to the strides made in recent years in packing paper properly so it arrived at its destination in a satisfactory condition. He suggested that the sealed package should be substituted for the roped package, because business sometimes is gained or lost through the manner in which a shipment reaches its destination.

Mention was made by J. H. Slater of Escanaba, Mich., that better packing should be used, but that the customer should be willing to pay for it. He levelled criticism at publishers who buy Canadian paper as a matter of selfishness even though it is poorly wrapped as compared to American. "Chiseling" was blamed by him for keeping the price of paper at approximately its 1931 level while the price of skids and cores has doubled and trebled.

Standard Package Suggested

Importance of delivery of stock in first class condition was emphasized by R. I. Drake, of the Menasha Products Company, Menasha, Wis., who said that ragged or torn edges on sheets may easily damage the automatic printing presses of the modern day. It is just as essential, he said, for the mill to deliver its product to the printer in perfect condition, as it is for the printer to deliver a perfect product to the customer. Mr. Drake suggested a standard package for adoption by mills, the cost to be included in the final cost to the consumer. Railroads came in for their share of criticism for causing damage that no system of packing could eliminate.

Another feature of the afternoon was a paper read by Fred C. Boyce, of Brokaw, Wis. Mr. Boyce is always a popular figure at these conventions. Although now retired, he is the man who started the superintendents' association and is always referred to as its father. His paper dealt with improved mill mechanisms.

The real merrymaking of the convention took place Friday evening, when the "Ancient Order of Chinese Paper Makers," organized a year or two ago, had its annual stag dinner and a fantastic ritual of initiation. This time the fun and ceremony had a genuine Chinese atmosphere, though the presence and assistance of Yoke Chan of Chicago, prominent in the paper trade. His part in the ceremonies proved effective in making an impression on the candidates. Those initiated included: Charles Atwell, John White, Peter Portman, L. C. Elglert, Ralph G. Drew, Robert Helling, Walter G. Roehl, William Gilmore, P. L. Conway, J. C. Sturtevant, John M. Lull and Ray D. Page of Wausau, Wis.; R. A. Radsch and W. E. Waymire, Appleton, Wis.; William Reiman, Iron River, Wis.; L. E. Fitzgerald, Kalamazoo, Mich.; R. W. Haddock, Escanaba, Mich.; R. Skagerberg, St. Paul, Minn.; U. A. Rothermel, Milwaukee, Wis., R. E. Jones, Evanston, Ill., and Charles N. Server, of Dayton, Ohio.

Technical Papers Presented

Saturday morning's session was devoted to technical papers and the election of officers. An informal luncheon was held at noon at Hotel Wausau, followed in the afternoon by golf, trap shooting, and inspection trips to nearby mills. The convention closed Saturday evening with a dinner-dance at the Elks club.

On Friday afternoon, the women visitors were taken on an inspection trip to Fromm Bros.' fox ranch at Hamburg, Wis., one of the largest in the world. They were tendered a dinner and theater party in the evening. Luncheon and bridge at Wasau Country club occupied them Saturday afternoon.

News of the Industry

Employment reports of the Wisconsin Industrial Commission during the period from June 15 to July 15 indicate that the paper mill cities of Appleton, Ashland, Eau Claire, Green Bay, Stevens Point and Wisconsin Rapids showed decreases in both employment and payrolls. Depere and Marinette reported increases in both employment and payrolls. Neenah, Menasha, Rhinelander and Wausau reported increased employment but decreased payrolls.

Factory employment for the state in July was 12.9 per cent greater than in July, 1931, and 37.3 per cent greater than in July, 1932. Payrolls were increased by 26.4 per cent over a year ago, and 81.1 per cent over July of two years ago.

Six unions of the American Federation of Labor have filed application for increased wages and adjusted working conditions with the Allis-Chalmers Company, Milwaukee, Wis. The unions claim to represent more than 600 workers. They demand an increase of ten cents an hour to bring the minimum wage to 75 cents, a 35-hour

week of five days, a closed shop, and abolition of piece work. Officials of the company have made no answer to the proposals.

Federal reforestation work in Wisconsin will take a decided spurt this coming winter, with the addition of fourteen new Civilian Conservation Corps camps. These additions will bring the state's total to 44 camps, through which work can be speeded in the immense forest areas now owned by the government. The 14 new camps will cost $322,000. Seven others will be repaired and made adaptable for winter use at a cost of $34,000.

Engineers and executives of the Kimberly-Clark Corporation will participate in a series of classes this fall and winter at Neenah and Kimberly, Wis., in which a study will be made of current economic trends. John L. Miller, instructor in economics of the University of Wisconsin extension division, will give the lectures and will lead in the open discussions. Recourse will be had to the best factual information. Meetings will be held Thursdays for seventeen weeks, with the Neenah classes at 4:30 in the afternoon, and the Kimberly sessions at 7:30 in the evening.

J. J. Plzak, personnel manager of the Consolidated Water Power and Paper Co., Wisconsin Rapids, Wis., has been appointed by the Paper Industry Code Authority on a special committee to establish standards for safety and health for the paper and pulp industry. The project will be worked out jointly with the newsprint and paperboard mills, as required by the respective codes.

Alexander Thomson Speaks on NRA

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, October 1, 1934—The force of the Federal housing rehabilitation program as a stimulant to industrial markets and the relationship between industrial management and NRA administration were principal topics discussed at the session of the National Industrial Advertisers Association in Cincinnati.

Alexander Thomson, Hamilton, Ohio, president of the Champion Coated Paper Company said the position of the NRA in the future of American industry should be that of "an umpire, a clearing house where all of ills of industry may be taken and where the multitude of complex problems which daily and hourly beset business men should be taken for clarification and fair and unbiased interpretation."

He said industry had not reached the point where the Government should attempt to restrict it, nor had it reached a point where the Government should operate it.

Thomson indicated that it is important that industrial executives react personally to the experiences of men whom they employ. He attacked absentee management of industry, saying there "are too many executives sitting in offices in tall buildings in big cities worrying about stockholders and dividends when the men under them are bewildered."

He urged executives to realize the investment which the worker puts into the plant in his labor, year in and year out. He said both capital and labor might say: "We have too much invested in this business to have it fail."

"The economic propriety of the plant-and-plow-under system is open to serious question," Thomson said. "It lends itself to subterfuge by those who are supposed to be its beneficiaries."

Ward M. Canaady, Director of Public Relations, Federal Housing Administration, Washington, outlined the features of the housing program which is being rushed forward in every city of the nation.

Code Budget Approved for Paper Trade

Approval of the budget of code expenses of the paper distributing trade was announced today by the National Recovery Administration.

The budget totals $494,000.15 for the calendar year 1934. Of that amount, $125,212.20 is for expenses of the National Code Authority and the remainder for seven Regional Code Authorities. The basis of assessment for the National Code Authority of 30c per $1000 sales, and $3 per employee. Assessments for Regional Code Authorities vary, according to the area from 14½c per $1000 sales and $1.45 per employee in Region No. 2 (the Middle Atlantic), to $2.43 per $1000 sales and $24.30 per employee in the Spokane trading area.

Principal items in the National Code Authority budget are $20,000 for executive salaries (executive secretary, administrative assistant, and two assistant secretaries); $7500 for two technical assistants; $12,712.20 for clerical employees; $29,750 for office expenses; $18,500 for traveling expenses; $12,000 for counsel; $7500 for accountants' fees; $6000 for statistical research, and $11,250 for reserves.

The industry has an annual sales volume of about $237,000,000. Assessments for code expenses will amount to approximately 2/10 of one per cent of sales. The industry employs 18,000 workers.

Approval of the budget was conditioned on certain reports being submitted by the Code Authority. These include notarized statements of budget operations of the National Code Authority and the various regions for the first six months and the first three-quarters of the year, and balance sheets showing positions at the ends of those periods and as of September 1. A study and recommendations also was directed to be submitted, on or before January 1, for "more economical administration of the code through consolidation of administrative agencies wherever practicable; and for such other economies in local and national administration as may appear desirable." A further provisio was that "on the basis of the above information, and the operating experience gathered during 1934, the most economical budget for 1935 shall be submitted for approval before December 31, 1934."

To Attempt To Depress Value of Shares

LOCKPORT, N. Y., September 24, 1934—Declaring that no conspiracy had been shown, Supreme Court Judge Thomas H. Noonan this week granted a motion for the dismissal of the $375,000 suit instituted by Mrs. Genevieve W. Greene, of New York City, against the Lockport Exchange Trust Co. and the Niagara County National Bank and Trust Company. It was alleged by Mrs. Greene that the banks conspired to destroy the value of the 500 shares of stock in the defunct Niagara Paper Mills which she had pledged as collateral for a loan made to her husband. Mr. Greene was president of the mills.

R. F. C. Loans to Paper Concerns

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 3, 1934.—The monthly report of the Reconstruction Finance Corporation for July shows that industry loans were made to the following paper companies at 6 per cent interest: Franklin Paper Company, Holyoke, Mass., $24,300; The Racquette River Paper Company, Pottsdam, N. Y., $150,000; and International Pacific Pulp and Paper Company, Portland, Ore., $60,750.

Canadian Newsprint Exports Moderately Ahead

Dominion Bureau of Statistics Reports Slight Gain In August Compared With Corresponding Period Last Year—Value of Exports for Year Ended August 31 Increased 13.1 Per Cent Over Preceding Twelve Months—Exports of Pulp Also Expand

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., October 1, 1934—Canada's newsprint exports in August were moderately ahead of those of the like period of last year, but fell below the July figures, according to the monthly report by the Dominion Bureau of Statistics. Last month's exports were valued at $6,396,808, as compared with $7,263,463 in the preceding month and $6,237,034 in August, 1933. Of the month's exports, those to the United States accounted for $5,520,868. The three next largest buyers of newsprint among the 43 countries to which it was exported were Argentina with $233,561 worth, Japan with $164,851, and Australia with $134,832.

Tonnage exports were 183,930 last month, as compared with 212,845 on July of this year and 165,880 in August, 1933. It is interesting to note that whereas tonnage increased 10.9 per cent over last year, the total value gained only 2.5 per cent, reflecting reduced prices received for this product by Canadian mills.

Exports of all papers and manufacturers of papers in August aggregated $6,808,122 as against $7,668,386.

For the twelve months to August 31, 1934, newsprint exports were valued at $77,485,906 as compared with $68,512,790 in the preceding twelve months, an increase of 13.1 per cent. Tonnage was 2,234,918 as against 1,699,196 an increase of 31.5 per cent.

Exports of all papers and manufactures of papers in August were valued at $6,808,122 as against $7,668,386 in the preceding month and $6,557,286 in August, 1933. For the twelve months the total was $81,972,108 as against $71,483,411.

Exports of pulp in August were valued at $2,180,077, practically unchanged from the preceding month's total of $2,180,952 and comparing with $2,655,779 in the like month of last year. For the twelve months, Canadian pulp exports were $25,559,515 as against $20,888,032 in the preceding twelve months.

Newsprint Prices

The major interest in the newsprint industry here at the present time centres around the question of prices. The matter is a serious one, since although the official price for delivery of Canadian newsprint in the New York and Chicago zones over the past year has been $40 a ton, there has been a decline of nearly $1.50 a ton in the net return, owing to the change from a premium to a discount on American dollars. At one time as much as $8 a ton was netted on converting American dollar payments into Canadian funds. The mills have been able in many cases to keep down their costs by using up accumulated wood piles, but most of them will now have to arrange for new supplies, which will mean higher costs for raw materials. Negotiations are underway towards establishing higher prices, but whether or not manufacturers will be able to get together in presenting a united front for a more equitable return on their product is an open question. The advance which is now proposed is $5 a ton.

Stumpage Rates in New Brunswick

Premier L. P. D. Tilley, of New Brunswick, received during the week a delegation of lumbermen who asked for a reduction of the stumpage rate, stating that costs of producing lumber were greater in New Brunswick than in Quebec or Ontario. In Quebec the stumpage rate is $1.50 and the minimum wage $30 a month for experienced woodsmen. Ontario's stumpage rate is still lower than that of Quebec, the lumbermen said.

In reply the Premier announced that if the price New Brunswick shippers receive for lumber on the British market in the spring of 1935 is as high as the price received in the spring of 1934 there will be no change in the province's stumpage rate. If, on the other hand, the price is lower than in the spring of this year, the provincial Government will give lumbermen a rebate of $1 a stump per 1,000 feet on softwood long lumber and all softwood products except pulpwood.

The Premier also announced that the minimum wage had been fixed by the New Brunswick Forest Operations Commission at $32 per month for woodsmen engaged in long lumber operations and that there would be no change in this wage.

Waste Paper Minimum Price Schedule Revised

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 3, 1934—Revision of the emergency minimum price schedule temporarily in effect under the waste paper code was announced by NRA. The revision extends the minimum price of $6.50 a ton for "No. 1 mixed paper" to cover all "mixed paper" and permits members of the trade to re-sell to other members at $6 a ton for mixed paper and $7.50 a ton for "folded news." In the original order the minimum price for folded news was $8.50 a ton.

The lower prices permitted for sales between members of the trade were established for the protection of small dealers who have no mill connections and must deal through brokers, NRA officials emphasized.

Nagel Paper Co. Formed

SAGINAW, Mich., September 29, 1934.—Organization of the Nagel Paper Company, to be operated as an affiliate of the Saginaw Paper Box Company, was announced last week by William M. Nagel, president, treasurer and manager of the latter concern.

The Nagel Paper Company will be operated by Mr. Nagel's children, Harold W., Violet C. and William G. Nagel, at 1900 Holland avenue, as a jobbing concern and wholesale distributor of bags, wrapping paper, twine, towels, napkins, paper cups, dishes, notions and the various other paper products. The new company provides a complete auxiliary line in connection with the business of the paper box concern manufacturing all types of paper boxes.

Authority for Fibre Cans and Tubes

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 3, 1934.—Dr. H. R. Moody, director of the Department of Chemistry, College City of New York, has been appointed administration member of the Code Authority for the Fiber Can and Tube Industry, NRA announced today.

Dr. Moody was a member of the Technical Division, Chemical Section, War Industries Board, in 1917 and 1918. His home address is RFD No. 1, Richville, Sebago Lake, Maine.

Paper Demand Gradually Improving In Boston

Wholesale Paper Merchants Experience Greater Activity In September Than During Previous Sixty Days, Due to Usual Seasonal Improvement—Various Standard Grades of Fine Paper In Moderate Request—Kraft Papers Moving Fairly Well

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 1, 1934—Compared with a year ago at this time, business in general is better among paper wholesalers here. All in all, September has been a very good month, although there was a little easing off in the last week or two in some quarters. This month as a whole was better than the previous sixty days, due to development of the usual seasonal activity, but perhaps there is less demand than normal at this period of the year. With the majority of the textile mills, which had been closed on account of the strike, operating again, business from this quarter for wrapping paper, some specialties and twine improved during the week. Wrapping paper, by and large, moved fairly well, although rather spotty in some cases. The call for fine papers continued in moderate volume, with an occasional substantial order. Box boards showed a little more improvement.

The paper stock market is in a chaotic condition, especially in regard to mixed papers. There were a few orders for mixed papers, one of the mills reported to have bought at 25 cents per hundred pounds, although the prevailing quotation is 32½ @ 35 cents in accordance with the Code minimum limit. Dealers are reported to have been paying 10 cents per hundred to the junk man before the NRA regulations, but are now paying 20 cents. Owing to the general lack of demand from the paper mills for mixed papers, and the fact that dealers who have contracts to buy waste papers from department stores and other large establishments are expected to remove them, accumulations are increasing. A Boston concern has so much on hand that it is piling up on his loading platform. A Providence firm was obliged to hire a warehouse for extra space. It is estimated that mills of the country have approximately 300,000 tons of mixed papers on hand. Corrugated boxes were rather active, but selling at low prices. One mill bought as much as needed at 32½ cents per hundred pounds, a price which is expected to prevail within the next week, although the current quotation is 32½ @ 40 cents. Prices of bagging, new and old domestic rags and foreign rags remain unchanged.

Frank B. Cummings Discusses Code

Frank B. Cummings, executive secretary of Regional Committee No. 1 of the Code Authority for the Paper Distributing Trade, comprising New England, Central and Northern New York, addressed the trade of Utica, N. Y., at the Hotel Utica, that city, Thursday evening, talking on the Code.

As noted in these columns a week ago, Mr. Cummings is released as executive secretary and treasurer of Region No. 1, effective today, to devote all his time to the New England Paper Merchants Association.

E. J. Norris, who is to assume the duties of executive secretary, is a graduate of Harvard in the Class of 1924 and of the Harvard Graduate School of Business Administration, 1932. Mr. Norris has been Mr. Cummings' assistant since June, is conversant with the work and has been in direct charge of the Price Reporting Plan.

A. R. Barnes, who is to assume the duties of treasurer, has been Mr. Cummings' assistant since January. Mr. Barnes is a graduate of the Worcester Polytechnic Institute in the Class of 1930 and has been an engineer for the Fred T. Ley Construction Company, New York.

News of the Trade

A sales promotion meeting on the part of Dill & Collins Company, of Philadelphia, was held for the staffs of John Carter & Co., Inc., Thursday evening at the Boston Chamber of Commerce, at which was given a demonstration and selling points of the lines of the Philadelphia concern. Dill & Collins Company was represented by W. R. Ingersol, sales manager, and Kort Kamp, advertising manager.

John Carter & Co. have started an advertising campaign on Hancock, a paper which the company say is made by New England paper makers who know the requirements of New England printers.

A sales meeting in regard to Strathmore papers, made by the Strathmore Paper Company, West Springfield, Mass., was held at the office of Storrs & Bement Company Friday evening.

During the 17th Annual Conference and Exposition of the Direct Mail Advertising Association, Inc., to be held at the Hotel Statler Oct. 9-12, inclusive, the Storrs & Bement Company plans to have a display of Reynolds Metal Unifoil papers and one of the S. D. Warren papers, including the Warren School Year Book exhibit.

The latest Eagle-A bond paper, Derby Bond, made by the American Writing Paper Company, was received with enthusiasm by the trade. This paper is a cockle finish, sulphite bond of unusual strength and beauty. The line will be stocked in all bond sizes and weights in white only.

The Andrews Paper Company, distributor for the Brown Company, Portland, Me., has just received a new line of individually wrapped Nibroc towels, showing the new labels and calling the user's attention to the Solka content of SWS.

Tolman print, formerly located in Brockton, Mass., has removed with plant and office, to the same building occupied by the University Press, Cambridge, Mass. Tolman Print is identical with the University Press, operated by the same organization, but bears a different name.

Charles Beckwith, manager of the Coast houses of Carter Rice & Co., Corp., was at the local offices of the company a few days last week.

Joseph Seiler, in company with A. P. Mitchell, both of the Riegel Paper Corporation, New York, called on the trade Thursday. Mr. Seiler had not been in the Boston trade for some eight years.

The Globe Paper Company was among the contributors of prizes awarded at the annual golf tournament of the Luncheon Club, held at the Winthrop Golf Club, Winthrop, Mass.

American Coating Mills Move

The American Coating Mills, Inc., have removed their New York office to 22 East 40th street. The telephone number is Lexington 2-4050.

Ontario Mills Active In Accident Prevention

D. B. Chant, Secretary-Engineer of Ontario Pulp & Paper Makers' Safety Association, Reports Both Executives and Staffs Are Co-Operating In Efforts to Keep Record Down to Minimum—H. C. Laundry Discusses Foreman's Responsibility

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., October 1, 1934—Returning to Toronto after a visit of inspection to the pulp and paper mills in the north and northwest parts of Ontario, D. B. Chant, secretary-engineer of the Ontario Pulp and Paper Makers' Safety Association, stated that at no time in the history of the organization were the mills more active in accident prevention than at the present time. As to general house keeping, he said, both executives and staffs were cooperating in efforts to keep the accident record down to a minimum and they were succeeding to a gratifying extent. The mills visited were the Iriquois Falls and Smooth Rock Falls mills of the Abitibi Power and Paper Company; Spruce Falls Mills at Kapuskasing; Thunder Bay Paper Company; Provincial Paper Mills at Port Arthur; Great Lakes Paper Company mills at Fort William; Abitibi mills at Sault Ste. Marie; Dryden Paper Company, and Kenora Mills, at Kenora.

At Fort Williams nearly forty delegates from pulp and paper mills in the district from Kapuskasing to Kenora and Fort Frances assembled in convention under the auspices of the association, when J. S. Wilson, of the Dryden Pulp and Paper Company, presided. Welcomed by the Mayor of the city, the municipal head declared that the pulp and paper industry was one of the most vital industries in the Thunder Bay district and any steps that could be taken to decrease the hazard of accidents was a distinct boon to the employees and to the city as a whole. One of the features of the meeting was an address by D. B. Chant, head of the association, on "Can the Association's service to member firms be improved?", while H. H. Dybvig, of Port Frances, spoke on the arousing and retention of employees' interest in accident prevention. "The foreman's responsibility" was the subject of an address by H. C. Laundry, of Kapuskasing, and Dr. Coulson, of Port Arthur, discussed accident prevention from a medical standpoint, while William Gray of the Provincial Paper Mills at Porth Arthur, in an address, strongly urged the following up of accident cases in the interests of the men and employers.

More Pulpwood to Come Out This Year

That pulpwood logging operations in Northern Ontario will be on a greater scale this year than last was the opinion formed by D. B. Chant, secretary-engineer of the Ontario Pulp and Paper Makers' Safety Association, who has just returned to Toronto after a tour of Northern Ontario. A number of the mills which had not been operating in the woods for several years are now planning to take out considerable pulpwood and several of the plants which have been logging for years have materially increased schedules. The total amount to be cut, of course, will depend upon whether or not present labor conditions as between the mills and their employers in the districts affected can be smoothed down, but in any event it is anticipated that the pulpwood cut will be much greater than last year.

General Strike Threatened in North

A strike of bush workers in the Thunder Bay District was threatened as the month closed as pulpwood cutters were preparing to make an attempt to enforce demands for increased wage rates. At the present time they are receiving $3.50 for cutting a cord of eight-foot pulpwood known as a double cord. The demand is for an increase to $4.25 and $4.50 per double cord, depending upon the type of timber in which the cutting is being done. About 100 men in one of Don Clark's camps on Black Bay were paid off last week and operations at the camp have been virtually closed down, but work is continuing without interruption at another of the same operator's camps three miles down the lake shore. One camp of the Pigeon Timber Company was closed down after threats had been received that the men would walk out if their demands were not met but this camp has since been reopened and a number of the men have gone back. Feeling among timber operators and labor leaders, however, is that the difficulties are far from being settled, and it is freely predicted that there will be a general strike of timber workers in the Thunder Bay District within a week or ten days. Operations of timber contractors are not being carried out on a large scale at the present time.

Notes and Jottings of the Trade

E. H. Wilkinson, head of the E. H. Wilkinson Company, Ltd., paper mill representatives, Toronto, has returned from a business trip to England. Mr. Wilkinson stated that everywhere he went throughout the Island there were evidences of trade revival and that the paper industry was sharing in it to a large degree.

Howard Smith Paper Mills have contracted with the Hydro-Electric Power Commission for the use of surplus power for steam generation. The power comes in over a new line from the Gatineau River plants. A 20,000 k. w., 6,600 volt steam generator has been installed.

Manufacturers of building and roofing papers were cheered with the statement from Ottawa that there was an increase of $860,000, or 36.2 per cent in sixty-one cities of the Dominion during July as compared with June. In comparison with the corresponding months last year the increase was over $1,000,000, or 47.6 per cent. The increase in the construction business was quite general throughout the country.

A crew has been at work for several weeks at Nipigon, Ont., getting the groundwood mill of the Nipigon Corporation ready for operation. It is expected that the plant, which has a daily capacity of 60 tons, will be running by November. A considerable amount of wood has been arranged for.

P. Harrower, for many years an accountant with the Abitibi mill stores department at Iroquois Falls, Ont., who resigned to take a position with the Beatty mines, went on a two weeks' vacation before taking over his new position. He was presented with a club bag by his fellow employees, A. R. Mobbs, office manager, making the presentation at a gathering in the main office.

Appointment of the Sidney Roofing and Paper Company, Ltd., Vancouver and Victoria, B. C., as agents for International Fibreboard, Ltd., Ottawa, manufacturers of Ten Test line of insulation and building boards, has been announced.

Philadelphia Paper Market Continues Steady

Demand for Various Standard Grades of Paper Slightly Better Than of Late—Broader Activities Anticipated Shortly, With Advent of October—Position of Waste Paper Market Practically Unchanged—Scott Paper Co. Addition Started

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., October 1, 1934.—The slight revival in the paper trade market, experienced last week, remains about the same. However, with the advent of October, broader activity with prices still firm is expected. The waste paper market was unchanged either from a demand standpoint or collection curtailment. The first upturn from the bottom in the waste paper industry began in the summer of 1932 and lasted four months. The next advance began in the spring of 1933 and also continued during four months. Since this expansion production has turned downward without even equalling the volume reached last year.

Association Activities

A meeting of the Sub Committee of the Philadelphia Trading Area, with Chairman W. S. Wilcox of Wilcox-Walter Furlong Paper Company presiding, was held this afternoon in the headquarters of the Paper Trade Association.

The fall meeting of the Pennsylvania-New Jersey Division, American Pulp and Paper Mill Superintendents' Association, will be held on Friday and Saturday, October 19 and 20, at the duPont Hotel, Wilmington, Del. A very interesting program has been arranged by S. M. Hesser, chairman. On Friday afternoon, there will be visitations to Pusey & Jones Machine Shop, Wilmington, and Curtiss & Bros. Co., Newark, Del. And following, there will be golf at du Pont Country Club, through the courtesy of the du Pont Company.

On Saturday morning, among other topics that will be discussed will be "Cause and Effect of Improper Drying on Paper Machines," by Midwest-Fulton Machine Company, after which the business meeting and election of officers will take place. At noon, luncheon will be served. In the afternoon an illustrated talk on colors by J. Carl Schmidt is scheduled, and a very interesting discussion on "Paper Curling; Its Causes; Possible Means of Prevention; and Its Effects Upon the Printer," will be given by H. H. Hansen, general manager, W. C. Hamilton and Sons. C. H. Kephart is appointed leader in the Question Box. For the entertainment of the ladies, a trip to Longwood Gardens has been arranged.

In the evening the customary banquet will be held in the Du Barry Room, with William M. Shoemaker, treasurer and general manager, National Vulcanized Fibre Company, as toastmaster. During the dinner, there will be music, dancing and singing by celebrated artists. As a fitting climax, H. P. Carruth, president, Dill and Collins Company, will deliver an address on "The Growth of Science in Paper Manufacturing."

Scott Paper Co.'s New Development

The Scott Paper Company, Chester, Pa., has started construction on a manufacturing building as an addition to the production operations on their property at the foot of Market street, which, it is estimated, will total a million dollars. The new building is to be 240 feet long, 45 feet wide, and 46 feet in height above ground level, with a basement 14 feet in depth, and will run parallel with Market street immediately adjacent to the sidewalk on the east side. It will very materially improve the appearance of the company's property as it has been architecturally designed to conform with the most modern ideas of factory building. It was designed by the Stone and Webster Engineering Corporation, with Donald des Granges, of Boston, as consulting architect.

The architect and engineers have worked out a comprehensive plan for the development of the company's property at the foot of Market street and this building is the first step in a contemplated development extending over several years in the future. When the plant has been fully developed, the present buildings will be completely tied in with the new buildings in one large harmonious structure, which will almost entirely cover the city block of property the company now owns on the east side of Market street.

Exterior walls of the new building will be of semi-glazed, light colored brick, giving a very pleasing effect and conveying the idea of cleanliness and sanitation. The interior construction will be entirely different from that of the company's other machine buildings in that it will have an arched paneled and painted ceiling with no exposed steel superstructure. The interior walls will probably be glazed tile brick instead of painted brick walls, as in the present building. A tile floor instead of the ordinary concrete floor is also under consideration.

Especial study has been given to ventilation. Large fans will draw moisture-laden air out and other fans blow warm air in during cold weather and cool air in during summer months.

Huge Tissue Machine to be Installed

The building will house the last word in a modern, high-speed tissue machine, designed to run at a much higher speed than the company's present machines, with average between 900 and 1,000 feet per minute. This gigantic paper machine will weigh over 400 tons and, with its supporting equipment, occupy the largest portion of the main floor of the building and a considerable portion of the basement. The machine itself will be 175 inches wide and run a trim sheet of paper approximately 164 inches wide. Its output will be almost three carloads per day.

With the new installation, Scott Paper Company will have six of the most modern high-speed tissue-making machines, all of a standard width and comprising the largest battery of these types of tissue-making machines in any paper mill in the world. Work on the addition is started and the building itself is scheduled for completion the early part of January. It is expected that the machine will be installed and running by April 1, 1935.

As many as 150 men will be employed in the construction and installation work, and when completed the company will increase its present personnel organization to operate, maintain and finish the production of the new machine.

In addition to this construction, the Scott Paper Company is planning an expenditure of several hundred thousand dollars during the year 1935 for remodeling some of its present paper machines to conform to latest operating practice, as well as additions and betterments to its finishing department equipment.

Scott Paper Company has operated steadily during the depression. Its sales in 1933 were considerably ahead of what they were in 1929, and thus far this year are running ahead of last year. This new development program is to take care of its increasing business.

PAPER MERCHANTS HOLD SUCCESSFUL FALL MEETING

(Continued from page 13)

gallant competitor in the business field. . . . Code or no code you must collectively establish fair trade practices and ostracize those who violate them. You must promote and maintain sound selling policies and standardized terms and conditions of sale."

A. W. Leslie Presides at General Meeting

On the afternoon of September 25 the association held a general meeting, with President A. W. Leslie presiding. Following were the regular reports of the Board, the Treasurer, Mr. Addoms and of Mr. Chamberlain, executive secretary. Herein was conclusively shown the growth of the association, the expansion of its program and the broad plans for the future which promise, for the industry, a strong and cohesive unit of real usefulness working within the scope of the Code Authority and, in other ways, in carrying out some of the major objectives of those who planned the original code. President Leslie spoke as follows:

President Leslie's Address

It seems unnecessary for the Chairman of the Code Authority to remind those present that we represent a great trade. I am going to do so in just a little detail, because I think, for years, we have been suffering from an inferiority complex. Our contacts with the National Recovery administration, which required our appearing in Washington, on a number of occasions to present a clear picture of the importance, and magnitude of this trade, have brought an entirely new conception to the leaders of this trade of its size and importance. I must add also they have brought a very real sense of modesty to those of your numbers whom you have delegated to do this work.

This trade does an annual business normally of approximately a half billion dollars. In the best of years it has considerably exceeded this figure. We are responsible in normal times for the employment of 30,000 to 40,000 people. There are approximately 2,000 units in the trade doing business primarily as paper merchants, to say nothing of several thousand additional doing business in a partial way as paper merchants. In this latter group we, as primary dealers in paper, have a great deal of interest.

Organized Over Thirty Years

This trade has been an organized institution for over thirty years, practically one-third of a century. When we present this picture, an unbroken line of organization under the auspices of the National Paper Trade Association,—in Washington it meets with considerable respect. The trade has a standing of which every one of us may be proud.

This meeting is under the auspices of the Code Authority, an organization very young in months but very, very wide in experience.

In establishing the Code Authority it was necessary to have a board of nine members, and a supplementary organization totaling practically 400, all of whom are sworn members. These officers, have taken and signed an oath to uphold the laws of the nation and to carry out their duties as individual members of the Code Authority of the Paper Trade. I doubt very much if any one of these 400 has felt for a minute that the responsibility lay exclusively on the nine members who compose the central Code Authority. I am sure that all of these men have felt that they shared the responsibilities that were centralized in the board of nine. Otherwise, the whole project could not possibly have succeeded.

The undertaking is based on the theory that the trade desires to be a unit and that its members are willing to meet under a common purpose and objective.

A corollary is that every member of the trade indicates in a very practical way his willingness to subordinate selfish interest to the common good. Otherwise, what does government amount to, and what does cooperative action under association leadership amount to, and what can cooperative action under NRA possibly amount to?

A Tremendous Educational Job

For a short period of fifteen months since the National Recovery Administration was established by the Act of June 16, 1933, a tremendous educational job has been done. Perhaps the best indication of the fact that a big job has been done is that we, as a group of individuals, are not entirely satisfied with it. Otherwise, we probably wouldn't have realized what a job had been done. Now, we aren't entirely satisfied with it, and that is a good, healthy sign. The signs that are not so healthy, where they appear in rare places, are those little indications of fooling on the part of a few individuals who think that some one, or nine, or fifteen, or even four hundred men, are not doing the kind of job they should be doing. Well, of course, that isn't the kind of job this is. It is a composite job and every member of the trade and every member of the organizations represented by those members of the trade have a very definite part in the project. Any of our shortcomings must be shared by all.

This is 1934. It is September. We have just passed through a summer period. Local conditions through the United States, agricultural conditions, national conditions and even international conditions of uncertainty have been conducive to very distinct unrest and unsettlement,—a very difficult psychological situation to pass through. Fortunately we are here at the beginning of what we, on the North American continent, regard as a new crop year. Particularly you who come from agricultural sections of the country always think of it as the beginning of a business rise, and we wonder what may happen during the next three, six or nine months. But before we consider even so short a range view as three months or six months, might it not be well for us to take a very much broader point of view? I had two experiences in the last three weeks that encouraged me to think that we don't let our minds run along long ranges as much as we should for our own good.

A Nation Wide Perspective

Three weeks ago I stood on top of Mount Washington in New Hampshire. We had climbed up out of valleys to get a beautiful view in the evening as the sun was setting, a view in every direction. Canada was on the north. Maine on the east, Vermont and the rest of the United States in the other directions, and off to the south New York City and Washington. I couldn't help but think of the paper trade scattered over the country and wonder if maybe all of us should figuratively climb to the top of Mount Washington occasionally and regard our business and the activities of the trade from that point of view.

Only a week or two ago I went to attend a service in

the Marble Collegiate Church on Fifth Avenue, and I was particularly interested in reading the history of that church, established in 1628. It had forty consecutive ministers over that period with never a break. The building itself was built in 1858.

These two little incidents suggest that perhaps we should drag ourselves out of the mire and climb occasionally to a lofty pinnacle to look around. Perhaps it will give us a little more modest opinion of our own ability and our need for being here. Perhaps we will be able to view our problems with better judgment and greater perspective.

Within the next ten days or two weeks there will be published a report which I know you will find doubly interesting, comprising as it does major surveys of the present state of public opinion in this country as applied particularly to the current social and business policies which seem to predominate.. In connection with this report there will be economic observations.

An Important Report To Be Published

It is not my privilege, nor am I at liberty to identify this report; but I do want to suggest one thing I learned. Economically we may not find great cause to be encouraged by the business outlook for the next three to six months. Narrowing the problem to a shorter range, if this be the case, I submit that it is doubly essential that we maintain our unity, and that the trade more firmly organize for meeting whatever may be coming to us in the way of further difficulties or problems. By all means we must determine that we are going to surmount these difficulties and problems as a group. Certainly we are past the point of doing so as individuals.

Mr. Mead Advises Against Discouragement

About two weeks ago we had the privilege in our Code Authority meeting in New York of having with us George H. Mead, whom many of you know as a prominent member of the paper industry. Mr. Mead is Chairman of the Industrial Advisory Committee of the National Recovery Administration. He counsels very conservative, careful, thorough thinking about our problems. He advises us against assuming a discouraged attitude under the rules of code administration but rather encourages us to look at the job this way: We have a definite job to do under code administration and we must do that to the best of our ability. If we don't like code administration, if we don't like the National Recovery Administration, and if we don't like the Act itself, we as citizens of these United States, have the ways and means to bring about a change.

The question is whether we have the intelligence to bring about a constructive change and improvement. That is a question that we should all admit. If we have some definite ideas about what changes are necessary we should go directly to those responsible for making them, namely, our Representatives in Congress. These men should be made to understand our views and know how the people of this country feel regarding present provisions of the law, so that when the time comes in Congress between January 3 and June 15, the right kind of action will be taken.

Business Leaders Become Interested

It is very encouraging to note that business leaders over the country have come to see that they have been so busy with their own affairs that they have had little time for the affairs of government, local or national. It is encouraging to see that they are changing from that state of mind and are realizing now that they must give some time to these issues that are so important nationally. Each one of us in the room should take his proper part in the government of the country. We should seriously criticize ourselves for not having done so in years gone by.

We have had great issues. The problem of organized labor issue has received the most attention during the past few months. Labor has been in the ascendency and capital has had its tail between its legs and has not been heard from. It is decidedly the under dog.

But there is a third party concerned with this that doesn't seem to have had any attention one way or the other, and that is management. It has seemed to me, during the past two or three months particularly, that management really has been called upon to bear the big load in the recovery program but has never been given credit for it. Management itself perhaps isn't conscious of the fact that it has been carrying the load. It has had very little encouragement from any source.

Now there is a real distinction between capital and management. Management starts with the chief executive, active in the business, and runs down through to the man who runs the shipping room, and every man in your organization, if your organization is well knit, has some sense of managerial responsibility. Maybe the younger people in the organization feel that one of these days they will have a larger share of management responsibility. It does seem to me there should be a wide appeal to all of us in the trade who do regard ourselves as managers and who do realize that the job is placed definitely on our shoulders to bring our trade through the recovery period.

Closer Sense of Responsibility

I suggest in these few remarks things which are not possible to go into in further detail today, but management should regard itself as a huge organization comprising a very large part of the population of the country, a very influential and effective part of the population. There should be a sense of closer responsibility, unity and cooperation between those people who are definitely managers and are carrying this load.

We are opening the session here today and it will go into the divisional meetings of the association tomorrow. Our topic during the morning session is Code administration and its problems. I suggest as a point from which to start in presenting and discussing these problems that, first, you remember we must do the best we can constructively for the trade under the rules as now established and, secondly, we must do our best through all the channels available to bring about such changes as we believe necessary for the constructive nation wide development of the paper trade.

The address by W. W. Pickard, Co-Ordinator of the Industry followed the above mentioned reports. Mr. Pickard painted a comprehensive picture of the purpose of the Code, the problems it had met and overcome and the difficulties yet to be surmounted. The address indicated the belief of the co-ordinator that business must work out its problems in establishing fair trade practices and in punishing those who violate it. It further pointed out the desire of the Administration not to impose severe regulations on business but to assist business in solving its problem and in providing the "teeth" in the event that some recalcitrants could not be brought into line. Primarily, Mr. Pickard indicated, industry was being asked to do its own house cleaning job and the paper industry was doing its part.

Joint Survey Committee Report

R. M. Beckwith, Joint Survey Committee chairman,

gave his report following the close of Mr. Pickard's remarks. The meeting was then turned into a forum with the subject "How can the Association capitalize on Code Activity in its organized efforts to improve the Paper merchandising business and promote the interests of the trade." Answers given indicated that the Code had already brought men together who were learning how to utilize the new collective approach to solve problems even aside from the Code matters. That the Code had served to make men "association minded" and thus opened up a greater period of service for the industry than ever before. Also discussed were association problems dealing with plan of organization, membership, finance and committee functionings. These problems were discussed in an effort to assist in the strengthening and increasing the scope of local organizations who can and should be strong integral parts of the national association. It was brought out that the association can only be as strong as its local cooperative units are strong and that future efforts must be made to strengthen these local groups.

The evening of September 25 a round table dinner meeting was held at which presidents and secretaries of local associations were present. This session served as a follow up for the previous discussion as to ways and means of strengthening local units.

Divisional Units Convene

Wednesday meetings saw the association divided into its two units—fine and wrapping paper divisions, the Wrapping Paper Division under H. L. Zellerbach, vice president, meeting in the morning and the Fine Paper Division with Vice President O. F. Marquardt presiding, convening in the afternoon. Mr. Zellerbach's opening address stressed the importance of cooperative endeavor in handling code matters and emphasized the progress already made in uniting the industry in a common cause. Committee reports following included those of the Wrapping Paper, Bag, Tissue, Gummed Tape, Specialties and Twin Divisions, with the following respective chairmen: L. S. Altholz, J. S. Daney, F. B. Tracy, C. W. Andrews, Jr., A. D. Riley and G. W. T. Skinner.

A practical aspect was further provided by an open discussion of problems covering use of the all important "Green Book," the problem of manufacturers operating as distributors; wholesale grocers and chain store.

Code matters, direct selling and the matters of manufacturers' service stocks occupied much of the time of the Fine Paper Division, following Mr. Marquardt's opening address and the report of the Executive and General Committees. The latter included Writing Paper; Coarse Wrapping papers; Book Paper; Offset; Ground Wood and Newsprint; Envelopes; Cover and Text; Bristols, Blanks, Board and Tag; Blotting and Job Lots and Seconds, with the following chairmen presiding, P. A. Harris; H. G. Prosser; G. G. Cobean; A. M. Miller; J. D. Swigart; W. W. White; J. P. Cunningham; W. N. Gillett and G. W. Ward.

Enjoyable Entertainment Provided

Several features not on the program but nevertheless most enjoyable and entertaining were carded for the benefit of the many members. The Rhinelander Paper Company gave daily showings of its "Talkie Tour Through One of the World's Finest Paper Mills" in Suite 450 A of the Stevens. Showings were from 12 to 1 p.m. and continuous from 3:30 p.m. to 6:30 p.m. The buffet luncheon provided by the Central Paper Company on Tuesday noon was another feature, while the Midwest Division of the Salesmen's Association of the Paper Industry turned in a "surprise" luncheon, when about 125 members and guests went on the noon of September 24, to hear W. W. Pickard talk. Mr. Pickard talked in a lighter vein, obviously saving his heavy ammunition for his scheduled appearance the following day. The discussion was none-theless heartily enjoyed by the big attendance.

The windup event, the golf outing at Flossmoor on September 27, drew a big attendance including 140 golfers and many others who came out in the evening to enjoy the dinner program. The outing was, in every sense of the word, an "annual affair" and a great credit to its sponsors, the Mid West Division of the Salesmen's Association of the Paper Industry.

St. Regis Holds Mill Conference

[FROM OUR REGULAR CORRESPONDENT]

DEFERIET, N. Y., October 1, 1934—A conference of superintendents and officials of the various mills of the St. Regis Paper Co. was held here this week at which a discussion of general business conditions took place. The meeting was held in the local plant of the concern with 24 officers and superintendents attending. Among those attending were C. R. McMillan, vice president; Carl B. Martin, vice president and treasurer, and C. H. Phipps, manager of the sales department. The conference opened early in the morning and continued for the entire day, being interrupted by a dinner for the officials at the St. Regis Inn.

To Cooperate in Administering Code

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., October 1, 1934—Articles of incorporation have been filed with the Indiana secretary of state by the Zone Seven Container Association, Ind., of this city, formed to "co-operate in administering the code of fair competition for the corrugated and solid fiber shipping container industry." The corporation has no capital stock and Thomas V. Hart, 130 East Washington street, this city, is named resident agent. The incorporators are Ernest R. Baltzell, William G. Sparks and Kurt F. Pantzer.

American Pulp Corp. Makes First Run

[FROM OUR REGULAR CORRESPONDENT]

JERSEY CITY, N. J., October 1, 1934—The American Pulp Corporation made its first run last week, de-inking ten tons of ledger stock and converting it into a high quality of pulp. The Snyder McLaren process was used and, according to agreement, the paper was furnished by the James Flett Organization, whose main office is in Chicago. All waste paper to be de-inked by the American Pulp Corporation is to be furnished by the James Flett Organization.

Schroon River Mill To Start

[FROM OUR REGULAR CORRESPONDENT]

WARRENSBURG, N. Y., October 1, 1934—A force of nearly fifty men are overhauling the plant of the Schroon River Pulp and Paper Company in preparing for a reopening after a shutdown of several years. The repairs are practically completed and operations are expected to start this week inasmuch as a quantity of raw materials is already on hand. Former employees of the concern aided in preparing the plant for operations.

Obituary

Samuel Partington

GREENWICH, N. Y., October 1, 1934—The death of Samuel Partington, who for the past twenty-six years has been one of the prominent business men of Greenwich, occurred last week at his home on Cottage street. Mr. Partington was injured about seven years ago at the Continental mill, of which he was manager, and his health had been gradually failing since that time.

Samuel Partington was born in England, but had lived in this country since he was a small boy. Both Mr. Partington's father and grandfather were paper makers in England, and he was brought to Milburn, N. J., when his father became manager of the Diamond Mills Paper Company in that city.

Mr. Partington had a position in a paper mill at Malone when he was still a young man, but was soon recalled to Milburn to take over the position made vacant by his father's death. During his early life he made two trips to England to study the paper business there.

Later he became manager of the Little Falls Paper Company at Newburg, and after some years located at Butler, N. J. In 1908 Mr. and Mrs. Partington came to Greenwich to make their home, and for twenty-two years he was manager of the local plant of the Continental Paper and Bag Company. In 1930 Mr. Partington retired from business.

Mr. Partington was known as an expert throughout the trade, and locally was respected for his business integrity. His interests centered mainly in his business and in his home. In 1918 Mr. and Mrs. Partington bought the Alexander place on Cottage street where they have since lived. Besides his wife, Katherine Edwards Partington, Mr. Partington is survived only by two nephews and one niece.

Harry K. Fulton

WILMINGTON, Del., October 1, 1934—Harry K. Fulton, aged 74, of 133 West Eighteenth street, died recently in the Graduate Hospital, Philadelphia, after a long illness, following a stroke of paralysis. He had been a patient in the hospital for the past three years.

Mr. Fulton was born in Philadelphia and came to this city when a young man. He was associated with his father in the wholesale paper and twine business at 107 East Fourth street. His brother Robert D. Fulton who was also associated in the business, died September 3. Mr. Fulton was a member of Hanover Presbyterian Church.

Seven sisters survive. They are: Mrs. Anna E. Macklin, Miss Sarah C. Fulton, Mrs. Joseph S. Hamilton, Mrs. George Biddle, all of this city; Mrs. Florence F. Crossley, of Fontana, California; Mrs. J. S. Williams of Seattle, Wash., and Mrs. M. B. Wright, of Philadelphia.

Louis F. Hyde

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., October 1, 1934—Louis F. Hyde, vice president of Finch, Pruyn & Co., died suddenly this week here following a heart attack. For many years he has been among the outstanding leaders in the commercial life of this section and his sudden death was a shock to his many friends. He was born at Warren, Mass., in 1886 and graduated from Harvard college in 1890. Employees of the company held him in high regard and it is a recognized fact that in no other industrial establishment does more amicable relations exist with officials. He was also a director of Finch, Pruyn & Co., in addition to serving in a similar capacity with a number of prominent financial institutions.

Ernest H. Hoel

OMAHA, Neb., September 21, 1934—Ernest H. Hoel, vice-president and general manager of the Carpenter Paper Company, died September 15 of a heart attack, aged 61.

A former president of the Chamber of Commerce and of the Omaha branch of the Y. M. C. A., Mr. Hoel had been a leader in many other civic, fraternal and church activities.

He began his business career as office boy for a shoe company; joined the Carpenter Paper Company 33 years ago, and was vice-president for the last eight years.

Mr. Hoel was born in Omaha and was the son of Aaron R. Hoel, Douglas county's first sheriff.

Mrs. Hoel and two daughters survive.

Charles S. Elliott

ST. LOUIS, Mo., September 21, 1934—Charles S. Elliott, former president of the Mack-Elliott Paper Company, died suddenly September 14 at his home, 458 Pasadena avenue, Webster Groves.

A native of Springfield, Mass., he moved to St. Louis many years ago and established the paper distributing firm with which he was connected until last January.

He had a broad acquaintance among paper mill men in this country.

Surviving are his widow, Mrs. Marian Elliott; his mother, Mrs. Agnes C. Elliott, and a sister, Mrs. Moses of Springfield, Mass.

George B. Page

George B. Page, Philadelphia manager of the Terry Steam Turbine Company, of Hartford, Conn., died on September 10. He had been connected with the Terry organizations as Philadelphia manager since January 1, 1932.

Mr. Page was a graduate of Cornell University, class of 1908; and was previously employed by the B. F. Sturtevant Company in New York City and the Rust Engineering Company in Pittsburgh. He is survived by his wife and two children.

Fire at Fort Wayne Corrugated Paper

[FROM OUR REGULAR CORRESPONDENT]

VINCENNES, Ind., October 1, 1934—Fire last week at the plant of the Fort Wayne Corrugated Paper Company here destroyed more than 8,000 bales of straw. The fire had gained considerable headway and it was with considerable effort that firemen were able to prevent the spread of flames to the plant proper. The loss is covered by insurance.

Symphony in Color

The Howard Paper Company, of Urbana, Ohio, has recently been distributing a portfolio of Howard Bond lithographed letterheads entitled "Color Value" and also printed color samples of Howard Bond entitled "Symphony in Color." These are unusually attractive pieces of advertising matter which have been highly complimented.

Paper Mill Fire Control

By Paul W. Kearney

Those seriously interested in the control of fire in the paper industry could profitably inaugurate Fire Prevention Week, which will be observed October 7-13, with twenty minutes' study of the Annual Sprinkler Tables published by the National Fire Protection Association.

The reason is two-fold: First, such a study would result in a clear idea of just how good the automatic sprinkler can be in its proper field; second, it would show just how much below par the paper field is in the complete application of this protective device.

Let us, for the moment, ignore the thousands of plants which worry along with no protection whatever beyond a monumental faith in the Almighty; without considering them, there is still plenty of food for thought in those who pay good money for good protection—and don't get it.

Records show that in one year there were 1,248 fires in paper mills which were equipped with automatic sprinklers. In most of these cases the sprinklers proved satisfactory in their control of the outbreak; in 112 specific instances, the sprinklers failed. On the surface, it may seem that a 91 per cent effective performance is pretty fair in an industry so susceptible to outbreaks as is this one, but cold-blooded comparisons with other industries do not support that assumption.

Too Much Responsibility on Human Element

Why does the paper industry compare so favorably? Simply because the prevailing tendency there seems to be to place far too much responsibility on the fallible human element in fire control. Break down the statistics and that becomes apparent: Of the 112 paper-mill sprinkler failures, 14 are listed as "miscellaneous" or unknown, leaving 98 for which definite causes were ascertained. These 98 shape up as follows:

1.	Water shut off	27 cases
2.	Defective or inadequate equipment	25
3.	Defective water supply	17
4.	Obstruction to water distribution	8
5.	Installation inadequate	4
6a.	Freezing	3
6b.	Defective high-test heads	3
6c.	Explosion	3
7a.	Slow or defective dry valve	2
7b.	Faulty building construction	2
7c.	Exposure or conflagration	2
7d.	Plugged heads	2

Of these causes, Nos. 6c and 7c are factors which might normally be considered beyond the scope of such a device —although certainly the outside sprinkler or water curtain was specifically conceived to check the exposure hazard. Without haggling over that point, however, it is quite clear that 95 per cent of the known failures in paper mills were due directly to the failure of the human element, not to the failure of the sprinkler. Some of these indicate a plain collapse of common sense: Viz., Nos. 1, 4, 5 and 7b; but the bulk of them come back to that age-old explanation, improper maintenance. And that is precisely the lesson for Fire Prevention Week which a study of these tables should convey to the paper trades executive.

Strictly a First Aid Measure

Certainly it is elementary that the efficiency of the automatic sprinkler is its ability to combat an *incipient* outbreak at a time when a few gallons of water will suffice for extinguishment. Yet too many otherwise shrewd business men forget this fact for one reason or another. They forget, for instance, that the sprinkler wasn't designed to fight a going blaze but is strictly a first-aid measure. Consequently, the common practice of "economizing" by sprinkling the major portion of a plant and leaving some of it unprotected plays right into the hands of this hazard. Fires originating in unsprinklered areas have a fatal way of getting beyond control.

Even more important is the short-sightedness which nullifies the function (not to mention the substantial investment involved) of the installation by this bland tolerance of haphazard maintenance. To be sure, those responsible for that task mean well, but they are not "fire conscious" people. The plant superintendent has a hundred other worries, all of which seem more urgent and immediate than fighting a fire which hasn't yet occurred, and the upshot is that his sprinkler inspections are sporadic and fitful—if, indeed, they are made at all without the occasional visits of the insurance men. The gravity of that universal laxity is best demonstrated by the first three causes listed above!

Amazing as it may seem, 27 plants which wouldn't dream of trying to manufacture paper without pulp thought nothing of trying to fight a fire with no water in the extinguishing system. Small wonder, then, that paper mills don't compare so favorably with other fields beset by hazards infinitely greater.

Perhaps that is the very answer to the problem: Where obviously serious hazards exist, men are much more vigilant. Yet it would seem as if the paper trades, with hazards enough to worry about and a very high fire frequency to boot, could put two and two together.

Solution to the Problem

What is the solution of this problem? In the opinion of underwriters, firemen and prevention engineers everywhere, the only solution is *outside supervision* of approved automatic devices. It is not enough that the automatic sprinklers or automatic alarms be of standard excellence and installed to provide complete coverage: The final essential is that they be *operative* when the time comes. And the best assurance of that comes from outside central station organizations.

Take that most common and most ridiculous of all reasons for sprinkler failure, "water shut off." When somebody closes a sprinkler valve, he invariably intends to open it again—but forgets. With central station supervision this can't occur, for the simple reason that an alarm is received at the station the moment anybody closes a valve—and a few seconds later a central station operative is speeding toward that plant. An electrical detector on the valve sent that alarm automatically—and the central station will keep tab continuously until the reason for the act is explained and corrected and the valve reopened again.

In the same manner, any other systematic impediment to the sprinkler's function is reported to and acted upon by the central station, which is on duty twenty-four hours a day. It may be a leak; it may be low water in the gravity tanks; a drop in air pressure in a dry pipe system, or whatnot, but whatever it is, it transmits its own trouble signal and brings its own quick response.

A Priceless Insurance

This continuous supervision is not only priceless in insuring operation of sprinkler systems, but also in stopping the operation once the need has passed. Unsupervised sprinklers often check a fire and then water continues to flow for hours until the early-arriving employees discover the situation next morning. Damages from needless waterflow frequently run into the thousands while the fire loss was held to a few dollars, and this possibility is eliminated by immediate response to a central station system. Any waterflow, whether due to a leak or to a fire, results in an alarm which is transmitted direct to the Fire Department. The firemen who immediately respond take care of the situation and shut off the water, thus keeping water damage to the minimum.

Where automatic fire alarms serve in place of sprinklers, this same minute-to-minute "self supervision" prevails, with the result that the device is exactly what it is expected to be; *always operative.*

In case of actual fire in a central station protected property, the response is equally swift, but much more elaborate. Connected directly to fire headquarters, the alarm is transmitted automatically by the central office and the firemen are on the way within a minute after the incipient outbreak has made its presence known. Just how acute this detection is can only be appreciated by a knowledge of the number of cases in which the arriving firemen are met at the door by surprised occupants, who assure them that "there's no fire here." Notwithstanding that confidence, a quick survey invariably unearths the place where some smoldering rubbish has burst forth into a full-fledged outbreak!

Value of Service Is Obvious

The value of such service is perfectly obvious, but it need never be accepted on its theoretical importance alone. The statistics show that something more than $20,000,000,000 worth of commercial and industrial properties were protected by central station systems last year and that the actual fire immunity of all those hazards was exactly 99.98 per cent.

We are not speaking now about whether or not the automatic system operated, but, rather, in terms of *loss prevented.* In such a light it becomes patent that automatic control is the finest defense against fire when and if it is properly supervised!

Weekly Production Ratio Report

Reports to the Paper Industry Authority show the following Over-All Industry Production Ratios:

	Reporting Mills		Total Production Ratio
	Number	Capacity	
*Week ending September 1, 1934.....	264	106,681	62.6%
*Week ending September 8, 1934.....	286	105,945	52.9%
*Week ending September 15, 1934.....	272	107,436	57.6%
*Week ending September 22, 1934.....	211	82,799	57.9%

Detailed statistics showing the number of mills and average production ratios for the industry by ratio groups are given below:

Mills reporting production ratios between the following limits	Week ending September 8, 1934*		Week ending September 15, 1934*		Week ending September 22, 1934*	
	Number of mills reporting	Average rate of production	Number of mills reporting	Average rate of production	Number of mills reporting	Average rate of production
0— 25%	73	6.7%	49	7.3%	35	9.2%
26— 50%	74	39.5%	75	40.0%	56	40.7%
51— 75%	90	64.9%	75	62.3%	72	63.4%
76—100%	49	86.7%	73	90.2%	48	88.6%

*Subject to revision.

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours" were as follows:

Week ending September 8..... 53%
Week ending September 15..... 67%
Week ending September 22..... 62%

Revised statistics covering delinquent mill returns will be shown in later reports.

Indianapolis Demand Increases

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., October 1, 1934—With the last week the first really full selling week in the last three, due to holidays of various descriptions, some increase was seen in paper demand, particularly in the fine paper field. The increased volume was not great, but it marked, jobbers believe, a definite turn for the better during the fall season. Dealers and industrial users of fine papers were in the market for small amounts, mostly to complete broken stocks. However, there is quite a bit of work in prospect, principally direct by mail campaigns and catalogues and the outlook for fine papers is definitely better than it was a year ago. Ledgers and bonds showed a number of inquiries that were encouraging.

With most of the incipient strikes settled in the different paper box making plants, this branch of the industry seems going along on an even keel. Orders are not heavy, but they are sufficient to insure more or less steady production. Some warehouse stocks are being stored, but the level is not heavy and no apparent attempt is being made to augment these stocks.

The waxed paper market continues good. Indiana plants are working virtually to capacity and report continued orders, most of them from the bakery trade. Naturally, demand for summer specialties has slumped to a low point. Little is expected in these lines now until after the first of the year. The retail carry-over is not reported large and some buying will be done, likely after inventory. Tissues, however, remain steady, both in demand and price.

There is a continued good demand for newsprint. The volume being sold this fall is considerably more than that the same time a year ago and it is believed the holiday season will show much more advertising than a year ago. Prices are being firmly held.

A fair volume of roofing papers is being sold, as also is building paper of other kinds. Quite a bit of remodeling this fall is responsible for this. Little new construction is seen. Paper stock men report little mill demand for rags. The paper stock market, however, is a trifle stronger with demand mostly for the better grades.

Northern New York Division to Meet

B. D. Millidge, chairman of the Northern New York Division of the American Pulp and Paper Mill Superintendents Association writes that this organization expects to have a particularly interesting meeting in Ottawa, October 12-13 inclusive. The E. B. Eddy Company, Ltd.; J. R. Booth, Ltd., and the Canadian International Paper Company at Gatineau are putting forth every effort to provide a good time for all. An invitation is extended to all superintendents to attend whether or not they are members of the association.

A special invitation is extended to members of the Technical Association of the Pulp and Paper Industry, who, it is believed, will find the program of mill visits and the papers both interesting and instructive.

Union Bag Gets Pulp From Albany

HUDSON FALLS, N. Y., October 1, 1934—Four vessels carrying imported pulp for the Union Bag and Paper Corporation arrived at the Fort Edward terminal this week and motor trucks are transporting the cargo here. The consignment is from Sweden and will be followed by others next month. Use of the terminal by the concern has revived business at the barge canal terminal besides resulting in an enlargement of the force.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

San Jose, Cal.—The Muirson Label Company, 435 Stockton avenue, manufacturer of paper labels, tags, etc., has plans under way for new addition to paper converting plant, to be one-story, 126 x 165 feet, for cutting division, storage and distributing departments. It is estimated to cost close to $40,000, with equipment. Charles McKenzie, Twohy Building, San Jose, is architect.

Knoxville, Tenn.—The O. B. Andrews Company, Chattanooga, Tenn., manufacturer of paper boxes and containers, etc., has let general contract to the Mark K. Wilson Construction Company, Chattanooga, for initial units of new plant on tract of land at Knoxville, recently acquired, located at junction of the Dixie Highway and the Southern Railroad. Superstructure will begin at early date. Work will comprise additions to present plant at Knoxville, now to be expanded as a manufacturing works, and will include miscellaneous structures, such as loading platform, automobile service and garage building for company cars, etc. O. B. Andrews is president.

New York, N. Y.—The Kraftliner Gumming Corporation, recently organized with capital of $10,000, plans operation of paper converting plant for manufacture of gummed paper specialties of various kinds. Julius Muffson, 46 Clinton avenue, Albany, N. Y., is one of organizers of new company.

Oshkosh, Wis.—Fire recently damaged a portion of storage and distributing plant of Wisconsin Paper & Supply Company, Marion street. An official estimate of loss has not been announced, but is reported as slight.

Cambridge, Mass.—The Kendall Paper Company, recently formed to operate a wholesale paper distributing business, is opening quarters in local building on Amherst street, and will establish storage and distribution facilities at that location. Extensive operations are planned.

Jasper, Ala.—W. B. Pickard, Jasper, is at head of a project to construct and operate a paper mill in this vicinity, and sites are being considered in Jasper and Walker Counties. Pulpwood land will also be secured. Initial units of proposed plant are reported to cost over $100,000. A. S. Preston, Jasper, is interested in project. It is proposed to organize a company to carry out the program.

Bellingham, Wash.—The Sound View Pulp Company has approved plans for construction of a pipe line for water supply service at properties, and will begin work on installation at early date.

Peshtigo, Wis.—The Badger Paper Mills, Inc., manufacturer of waxed and other processed papers, is said to be arranging for immediate erection of superstructure for new two-story mill addition, recently referred to in these columns, and will push the unit to early completion. It will be equipped for expansion in waxing department.

Three Rivers, Mich.—The Three Rivers Waste Paper Company, recently organized with capital of 500 shares of stock, no par value, has acquired local building, and will occupy at once. New company plans for extensive operations with mills in this vicinity. Harold Shilling, 416 Pleasant street, heads the new organization.

Kalamazoo, Mich.—The Kalamazoo Vegetable Parchment Company has plans maturing for new addition to mill at Parchment, near Kalamazoo, recently referred to in these columns, and proposes to proceed with superstructure at early date. It will be two-story, 80 x 120 feet, to be used for storage and distribution. Estimated cost close to $30,000, including equipment. M. C. Billingham, Kalamazoo, is architect.

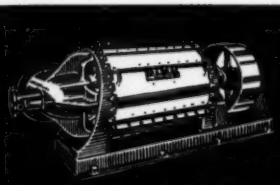
Manchester, Conn.—The Rogers Paper Manufacturing Company, manufacturer of press board, counter board and kindred paper and paperboard products, is operating on high production schedule, giving employment to about 125 persons. Company has recently advanced wages by 10 per cent, making the second such increase in past six months. The present advance has been made retroactive to September 4.

Chicago, Ill.—The Celotex Company, 919 North Michigan avenue, manufacturer of insulating board products, with main mill at Marrero, La., is concluding plans for reorganization, to be followed by increased operations at plant. William B. Nichols is chairman of reorganization committee.

New York, N. Y.—The Avalon Paper Company, 343 Sansome street, San Francisco, Cal., manufacturer of paper and pulp products, has filed notice of organization to operate in New York, with capital of $50,000. Local offices will be at 122 East Forty-second street. A. B. Lowenstein is vice-president.

Lockport, N. Y.—Meakins-McKinnon, Inc., has been organized with capital of $25,000, by W. G. Meakins, Niagara street, and associates, to operate a local fiber mill. New company will be affiliated with Meakins-McKinnon, Ltd., Hamilton, Ont., manufacturer of kindred products.

Manchester, England—The Thames Board Mills, Ltd., Purfleet, Essex, manufacturer of cardboard, paperboard and allied products, affiliated with Unilever, Ltd., same place, manufacturer of kindred paper goods, is concluding negotiations for purchase of large tract of land at Manchester, for construction of new branch mill. New plant will consist of several units, with initial installation to include two large paperboard machines and accessory equipment, designed to give employment to about 1000 men. New mill is reported to cost over $500,000, with machinery.



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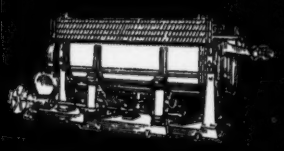

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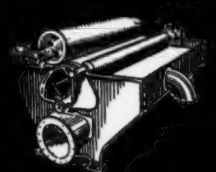

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Paper mills today are carrying a burden of excessive cost and waste that may be measured by the amount of obsolete machinery they continue to run. At some point on the road to recovery this must be replaced. Wise management is thinking of this now.

Whether you look for inflation and foresee a way to beat the game by transferring cheap dollars into durable goods, or whether you are betting that prosperity will prevent the necessity of inflation, only one conclusion can be drawn from past and present facts and that is, The Time Is Coming For You To Buy Machinery.

We hope you will read into this and all subsequent messages on Bird Machinery a reflection of our faith in the future of the nation and the paper industry and in our own future as builders of machinery that has made and will make money for paper mills.

Today we are asking you to take a close look at your mill equipment with an open mind as to what may be profitably replaced with modern, cost-reducing machinery.

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CHANGES IN THE NRA

General Johnson is out. This obviously means radical changes in the NRA because it has been accurately said that the General's name and the NRA as it exists at present are synonymous terms. Possibly no man in public life has been more severely criticised. This is not strange because perhaps no man was ever given a tougher job. Few men could have done the work he had to do so successfully. Under all the circumstances, he deserves considerable credit which will undoubtedly be extended to him more generously as time goes along.

Direct affects of the NRA codes under his administration in stabilizing business, preventing destructive price cutting, increasing employment and purchasing power, and raising price levels from loss to profit levels are demonstrated, according to an official statement, by the following recovery trends:

There were 40,180,000 persons employed in the United States in June, 1934. This is a gain of 4,120,000 over the low point of March, 1933, and an increase of 2,320,000 over June, 1933, when NRA became operative. Most of this rise occurred in industries codified under NRA. Re-employment under the codes rose and fell in separate trades and industries throughout the year because of seasonal and other factors, so that the gross volume of re-employment far exceeded the net increase of 2,320,000 given here.

The codes all established minimum wages and maximum hours and provided varying safeguards to protect the return in sales of such increased costs. The effect of these provisions is reflected in the reduction of the factory working week by six hours from June, 1933, to June, 1934; the estimated increase in labor's share in the national income from 58.3 per cent in June, 1933, to 62.5 per cent in June, 1934; and the increase in the wholesale price index from 60.2 in March, 1933, to 74.6 in June of this year.

Total weekly wages in manufacturing industries increased from $96,000,000 in June, 1933, to $132,000,000 in June, 1934, or 37.5 per cent. Despite an increase in the cost of living of 9.6 per cent, this represents a net rise of 25 per cent in the total purchasing power of workers in manufacturing industries.

The index of all manufacturing production was 47.4 in March, 1933. Pre-code speculative activity raised this figure to 85.1 in July, 1933. After a dip to 59.4 last November, the index rose again to 72.1 in May, 1934, since which time there has been another recession.

Dividing the index of manufacturing production into the durable and non-durable groups we find that the durable production index rose from 22.1 in March, 1933, to a maximum of 58.9 in June, 1934. The non-durable production index rose from 68.4 in March, 1933, to 101 in July, 1933, and then receded to 80.4 in June, 1934.

Highly significant are the figures on business failures, because they show the effect of NRA codes in the protection of small enterprises, where most failures occur. From February to May, 1934, business failures were far fewer in number and involved much less in liabilities than at any other time during the depression—a reduction of more than 40 per cent from the 1929 level.

Finally, the index of corporation profits changed from a deficit figure of 6.9 in the first quarter of 1933 to a profit figure of 33.2 in the second quarter of 1934. In this connection, Standard Statistics Corporation reports that the net profits of 506 companies of all types rose from $157,579,000 in the first half of 1933 to $408,572,000 in the first half of 1934, an increase of 158 per cent. According to the same source, the net profits of 402 industrial companies rose from $47,380,000 in the first half of 1933 to $335,870,000 in the first half of 1934, an increase of over 600 per cent.

The paper industry has been distinctly benefited through the NRA. It is reasonable to expect, therefore, that if the NRA under the reorganization which is taking place will lend fair and reasonable cooperation, the paper industry will accord its support in the future in a more wholehearted manner even than it has in the past. The various sections of the paper business have had no serious quarrel with General Johnson. With him, however, out of the picture, paper men will feel less concerned about threats of "cracking down" and other factors of a disturbing influence with which his strong personality was so accustomed to color the direction of the NRA.

SEPTEMBER SHOWS IMPROVEMENT

Trade improved during September, and those who have been hoping for a moderate pick-up in industrial activity during the autumn are encouraged accordingly, the National City Bank says in its October 1 review of business and finance. "This showing is in line with the expectations of some of the large merchandising concerns," the bank says, "and while it is due in part to cooler weather

bringing in buying which has been deferred during the heat wave, it is also based upon improved consumer buying power. An analysis was made in the last issue of this letter which indicated that despite drought losses the farmers' cash income available for fall trade would be larger than a year ago, and relief and other expenditures putting government money directly into consumers' hands reached a new high point during the month.

"Moreover, the breaking of the drought, with heavy rainfall over most of the affected area, has been helpful both in fact and sentiment.

"Another factor favorable to retail improvement has been the declining tendency in finished goods prices, which has persisted through the summer. To be sure, the situation invites comment that the narrowing of the spread between raw materials and finished goods prices must come out of the earnings of the manufacturer and distributer unless it is accomplished by reducing costs, and thus is not an unqualified benefit at a time when earnings are needed to restore the economic equilibrium and when the tendency in costs is all the other way.

"On the basis of the factors cited there was reason to expect a seasonal improvement in trade, despite the obvious handicaps in the way of any broad business expansion. It has been demonstrated several times during the depression that business in goods of everyday use can make an impressive upswing after a period of quietness or recession without much support from heavy industries, for there is constant need to replace such goods, and in one way or another the purchasing power is found to keep consumers supplied with them. The present upturn is of this character.

"On the whole, the business situation thus described is as good as business men generally expected it. It indicates that the extreme pessimism entertained in some quarters with respect to fall trade was unwarranted, and therefore holds promise of a fall improvement in the consumers' goods section of the industry. On the other hand, hopes of vigorous recovery that would include the construction and other capital goods industries are not being entertained."

Demoralizing Northern Industry

WATERTOWN, N. Y., October 1, 1934—Dr. James S. Thomas, president of the Clarkson Memorial College of Technology, delivered an interesting address here this week inaugurating a business recovery drive of the local Chamber of Commerce in which he stressed the need of more equity between agriculture and industry in the manner of better balance to regenerate prosperity. Dr. Thomas, rated as a noted economic authority and a former dean of the University of Alabama, declared that the South is demoralizing industry in the North by drawing concerns to that section. He related instances where southern localities have taken textile industries from this locality in broad industrial programs and cited other cases of industrial movements into the agricultural South, naming the paper manufacturing business as the latest of all. He declared that papermakers in the North can make better paper than people in the South who know comparatively little of the industry.

Says Alabama Can Provide Pulpwood

Recent reforestation experiments conducted by the T. R. Miller Mill Company, of Brewton, in the state's coastal region, are of vital importance in the unfolding plans of the Alabama Conference of Paper Products, whose aim is the establishment of newsprint mills utilizing Southern pine, says the *News* of Birmingham, Ala.

The importance of these experiments lies in their successful demonstration that so long as there is a mill to grind it this region will produce the necessary pulpwood. In other words, if the conference on paper products is successful in establishing pulp mills, there need never be a fear of diminishing supplies of raw materials.

W. T. Neal, of T. R. Miller Mill Company, relating his experience in reforestation in Alabama, has assured the paper products conference that with proper control of hindering factors and "just a little attention given to reforestation this section of Alabama will have pulpwood for an indefinite and perpetual operation."

This was taken by the conference to mean Alabama's pulpwood supply was sufficient to warrant any reasonable outlay of capital in the development of an entirely new industry, with resultant benefits of considerable magnitude.

Out of his long experience and expert knowledge of reforestation Mr. Neal was requested by the committee to appraise the importance of reforestation with respect to the proposed industrial expansion. Mr. Neal's reply contained the history of his company's reforestation projects and his conclusion that there was available a perpetual supply of raw material. He said:

"The coastal region of Alabama is a natural reforestation section. Long leaf, slash, short leaf and loblolly pine will cover the whole earth if just given a chance. If there is any way that forest fires can be controlled, we would be completely overrun with pine timber within a very short period of time. There are some sections that will have to be planted where there is not a sufficient number of seed trees left to furnish seed, especially in cultivated fields that have been abandoned.

"Our company planted 10,000 trees on 25 acres in February, 1931. These trees were planted in rows 10 feet apart and 10 feet in the rows. These trees were three years old last February and numbers of them are from 12 to 16 feet tall and from three to four inches in diameter at the ground, which demonstrates that they have grown at least one inch a year. At this rate of growing in 10 years they will be around 10 inches in diameter, which will be sufficiently large for pulpwood.

"In February, 1933, we planted 8,000 more. These are now a little over a year old, and will average around waist high to a man.

"In February, 1934, we planted 10,000 more, which are thriving nicely and are growing up to be real trees.

"The slash, short leaf and loblolly are the most rapid growing, but I find that long leaf is not far behind if given a chance to grow.

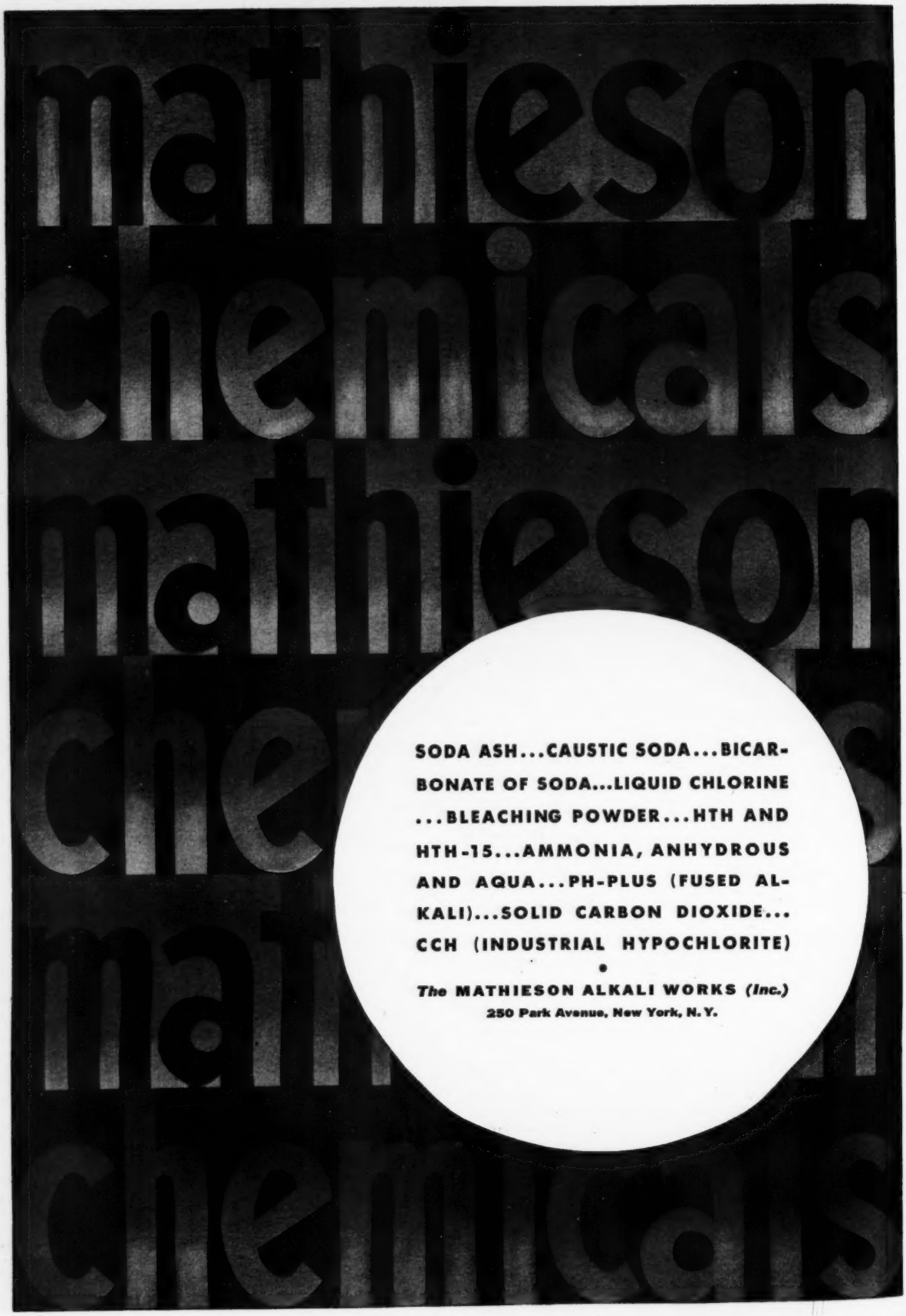
"We would welcome a paper plant mill in our territory and would be glad to cooperate to the fullest extent."

Finds No Dumping of Kraft Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 3, 1934.—The Treasury Department has found that there is no dumping of kraft paper on the United States market from Sweden.

Several notices of suspected dumping were issued by various appraising officers, but the department found "after investigation and careful consideration of the evidence presented * * * that a finding of dumping with respect to kraft paper from Sweden is not justified."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Edited by Ronald G. Macdonald, Secretary

Preservation of Newspaper Records*

By B. W. Scribner[1]

Abstract

An examination of newspapers published in the United States during the period 1830 to 1900 was made relative to preservation of this form of record. The papers were composed entirely of rag fiber prior to 1868, and mixtures of this fiber with other chemically treated fibers from straw were found in some papers dated prior to 1880. Nearly all of these papers were in good condition. Most of the papers published after 1868 contained crude ground wood fiber and these had deteriorated considerably. Tests of special issues of newspapers printed since 1927 on high-grade paper for permanent library files indicate that some records will be preserved in this way. For retarding decay of newspapers, the use of japanese tissue paper or transparent cellulose acetate sheeting appears to be effective. Apparently very stable reproductions of newspaper records can be made by photostatic and photolithographic printing on high-grade paper or by the use of photographic glass plates. The printing of the negative on glass plates in miniature, and reproduction of the prints on film slides, from which they can be projected in enlarged form for reading, are suggested for consideration when extensive reproductions are made.

Newspapers are a most important class of historical records as they present, when taken as a whole, the most authentic cross section of contemporaneous life and events. These records are in the main factual; they are not the result of opinions and deductions such as is often the case in historical writings. For this reason, the newspaper files constitute one of the most important and active classes of reference records preserved in libraries.

Unfortunately, considered from the viewpoint of their perpetual value, the immediate function of newspapers is to inform people of current events as quickly and inexpensively as possible, and this requires cheap paper suited to rapid and low-cost printing. The present type of newsprint, composed largely of crude ground wood fibers, is ideally suited to this function but its preservation is difficult, as its initial strength is low and it becomes brittle through deterioration of the fibers. Newspapers were first printed on rag fiber paper which was strong and durable, and there has been little difficulty in preserving the papers printed prior to the use of crude wood fibers. As a result of the observed deterioration of newspapers, the New York Times initiated in 1927 the issue of a part of its daily edition printed on high-grade paper for the permanent files of libraries, and several other newspaper publishers have adopted this practice. Preceding these special editions, then, there was a long period during which all newspapers were printed on paper which is subject to more or less rapid decay. In view of the importance of obtaining information which might assist in any project to perpetuate the newspaper records, a study of newspapers stored in libraries was made to definitely fix the period of use of impermanent newsprint, and some attention was given to preservative treatments for newspapers and the reproduction of their contents.

Examination of Old Newspapers

Through the cooperation of the New York Public Library, the Library of Congress, the Free Library of Oakland, Calif., and publishers of Pacific coast papers, specimens were secured from newspapers published in the United States during the period 1830 to 1900, with short intervals between the publication dates. This period covers the various transitions in the use of different kinds of fibers for newsprint. The specimens examined were from 18 eastern papers and 9 west coast papers. Since there are seldom duplicate copies of old newspapers in any one file, the specimens were necessarily limited to small strips cut from the margins. They were examined for state of preservation by visual inspection of color and by creasing them between the fingers for estimation of their relative strength and flexibility. Actual measurement of these properties was not necessary as it was found that three different operators graded the papers quite uniformly by this procedure. The papers fell naturally into five grades. Those designated as grade 1 were in excellent condition, showing little evidence of discoloration or brittleness, while those in grade 5 were deep brown in color and so brittle that they usually broke under one or two creasings. The other specimens were intermediate in these respects, in the relative order of the numbers. The degree of discoloration of the specimens closely paralleled the degree of brittleness. Identification of the fibers was made by the usual microscopical method.

The results of the examination of the papers are given in Tables I, II, and III, in which the papers are grouped according to the kinds of fibers in them. Some of the papers apparently contained some esparto fibers but, as their differentiation from straw fibers could not in most cases be made positively, all such fibers were included under the general designation of "straw."

* National Bureau of Standards Miscellaneous Publication No. 145 (July 19, 1934).
This is one of a series of investigations concerning the preservation of written and printed records made at the National Bureau of Standards with the assistance of a fund granted for the purpose by the Carnegie Foundation to the National Research Council.
[1] Member TAPPI, Chief of Paper Section, U. S. Bureau of Standards, Washington, D. C.

There is historical evidence that esparto fibers were used to a small extent in newsprint.

The earliest departure from all-rag papers shown by these data occurred in 1868 when some straw was contained in one of the papers; the first ground wood indicated by the data appeared in 1869; and the first chemical wood in 1872. Some of the papers dated from 1868 to 1880 are composed of straw and various mixtures of straw, rag, and chemical wood fibers. The latest paper containing straw is dated 1885. From that date, most of the papers are composed of various mixtures of chemical wood and ground wood fibers, although rag fibers were found as late as 1895. About this time, the present mixture of about 25 percent unbleached chemical wood fiber and 75 percent ground wood apparently became quite well established. Similar usage of fibers for book papers has been found except that the paper of the books published after 1904 was composed entirely of chemical wood fibers *(1)*.

The data show that practically all of the papers containing the crude ground-wood fibers, even those of the later dates, are badly deteriorated or well on the way to that condition, that all of the papers composed entirely of rag fibers are in excellent condition; and that most of the papers composed of straw and the various mixtures of chemically treated straw, rag, and wood fibers are in good condition. The records contained in most newspapers published since about 1868, when ground wood came into use for newsprint, will undoubtedly be lost through decay of the paper, unless measures are taken to preserve them. The very few exceptions are records printed on permanent papers of the limited library issues mentioned, dating since 1927.

A similar classification of old newspapers stored in the New York Public Library was made by John Archer and William R. Thurman of that institution, but their classification of papers was inferred from observation of the condition of the paper *(2)*.

These tables are of interest from a historical viewpoint because progress in papermaking has been intimately related to progress in civilization. They reflect the various steps in the most important epoch of paper; that which led to the inexpensive printing papers which, together with improvement in printing processes, made all classes of literature readily available to everyone. Just prior to this development, many newspapers were reduced in size or discontinued, and the publication of books decreased, because of the high cost of paper. *(3)* In 1865 a pound of newsprint paper cost 20 cents and the least expensive

TABLE I.—CONDITION OF NEWSPAPERS COMPOSED ENTIRELY OF CHEMICALLY PURIFIED RAG FIBER

EASTERN PAPERS

Title	Date	Grade
New York Journal of Commerce	May 19, 1830	1
Albany Argus	June 30, 1830	1
Cincinnati Daily Gazette	Oct. 2, 1830	2
New York Journal of Commerce	Oct. 1, 1834	1
Albany Argus	June 30, 1835	1
New York Herald	May 1, 1838	1
Cincinnati Daily Gazette	Sept. 6, 1838	1
Albany Argus	July 30, 1839	1
New York Herald	Feb. 4, 1840	2
New York Journal of Commerce	June 27, 1840	1
Cincinnati Daily Gazette	Sept. 2, 1840	1
Cincinnati Daily Gazette	June 21, 1845	1
New York Journal of Commerce	June 24, 1845	1
New York Herald	Sept. 1, 1845	1
Albany Argus	Sept. 5, 1845	1
New York Herald	June 22, 1850	1
New York Journal of Commerce	June 28, 1850	1
Cincinnati Daily Gazette	Sept. 2, 1850	1
Albany Journal	Sept. 3, 1850	1
Albany Argus	Feb. 21, 1855	1
New York Commercial Advertiser	June 22, 1855	2
New York Herald	June 24, 1855	1
New York Evening Post	June 30, 1855	1
Cincinnati Daily Gazette	Sept. 1, 1855	1
New York Journal of Commerce	Sept. 4, 1855	2
New York Commercial Advertiser	Sept. 2, 1859	2
New York Evening Post	June 29, 1860	1
New York Herald	June 30, 1860	1
New York Journal of Commerce	Sept. 4, 1860	1
Cincinnati Daily Gazette	Sept. 4, 1860	1
New York Staats Zeitung	Jan. 9, 1866	2
PACIFIC COAST PAPERS		
San Francisco Chronicle	July 17, 1854	1
Portland Oregonian	Sept. —, 1859	1
Portland Oregonian	Jan. —, 1863	2
Portland Oregonian	Aug. —, 1872	1
Portland Oregonian	Jan. —, 1876	1
Average		1.2

TABLE II.—CONDITION OF NEWSPAPERS COMPOSED OF VARIOUS CHEMICALLY PURIFIED FIBERS

EASTERN PAPERS

Title	Date	Percentages of each kind of fiber: Rag	Chemical wood	Straw	Grade
New York World	Jan. 19, 1868	85	..	15	1
Brooklyn Daily Eagle	Jan. 27, 1869	..	..	100	1
New York Evening Express	Sept. 7, 1870	50	..	50	1
New York Staats Zeitung	Jan. 26, 1870	75	..	25	4
New York Times	Aug. 20, 1871	15	..	85	1
Albany Argus	Mar. 19, 1872	15	15	70	1
New York Herald	Dec. 28, 1872	90	..	10	1
New York Sun	May 21, 1872	..	..	100	1
New York Weekly Times	Jan. 31, 1872	20	..	80	1
New York Journal of Commerce	Mar. 27, 1873	10	..	90	1
New York Times	Aug. 23, 1873	25	..	75	3
New York Evening Post	Aug. 15, 1873	85	..	15	1
Chicago Verbote	Feb. 14, 1874	90	10	..	4
Chicago Verbote	Apr. 29, 1876	50	30	20	4
Cincinnati Daily Gazette	Aug. 30, 1880	10	90	..	2
PACIFIC COAST PAPERS					
Portland Oregonian	Jan. —, 1868	35	..	65	2
San Diego Sun	Oct. 31, 1872	..	..	100	1
Average		..	..	..	1.8

TABLE III.—CONDITION OF NEWSPAPERS CONTAINING GROUND WOOD FIBER

EASTERN PAPERS

Title	Date	Percentages of each kinds of fibers: Rag	Chemical wood	Straw	Ground wood	Grade
Providence Journal	Apr. 6, 1869	80	..	10	10	2
New York World	June 22, 1870	60	..	..	40	5
Brooklyn Daily Eagle	July 22, 1871	45	..	10	45	5
New York Evening Express	Sept. 6, 1872	20	..	20	60	5
New York Tribune	Dec. 9, 1872	..	..	90	10	1
New York Evening Express	Sept. 11, 1874	30	..	10	60	5
New York Herald	Dec. 31, 1874	65	20	10	25	5
Providence Journal	Apr. 5, 1875	25	..	20	55	4
New York Evening Post	Aug. 17, 1875	75	..	..	25	5
New York Times	Aug. 20, 1875	30	..	..	70	5
New York Tribune	Dec. 7, 1876	65	..	15	20	3
Cincinnati Daily Gazette	Dec. 7, 1878	65	..	15	20	4
Cincinnati Daily Gazette	Sept. 1, 1880	5	80	5	10	2
New York Evening Post	Sept. 4, 1880	50	..	20	30	2
New York Journal of Commerce	Sept. 2, 1880	35	..	..	65	4
Albany Argus	June 28, 1885	15	..	40	45	4
New York Evening Post	June 27, 1885	25	..	..	75	4
New York Herald	June 27, 1885	15	10	25	50	4
New York Journal of Commerce	Aug. 24, 1885	25	..	..	75	5
New York Evening Post	Aug. 26, 1890	20	5	..	75	5
New York Herald	June 29, 1890	..	35	..	65	4
New York Journal of Commerce	June 19, 1890	5	10	..	85	5
New York Evening Post	Aug. 24, 1895	..	25	..	75	5
New York Journal of Commerce	June 28, 1895	..	25	..	75	5
New York Herald	Oct. 3, 1895	..	35	..	65	4
PACIFIC COAST PAPERS						
San Francisco Chronicle	June 16, 1874	5	..	90	5	3
Oakland Tribune	Aug. 23, 1875	30	10	30	30	3
Seattle Post Intelligencer	Nov. 13, 1876	65	..	30	5	3
San Francisco Call	Jan. 4, 1875	50	..	..	50	4
San Francisco Chronicle	June 29, 1879	50	..	..	50	4
Oakland Tribune	Jan. 23, 1880	30	..	..	70	3
San Francisco Call	Jan. 4, 1880	40	5	40	15	4
Portland Oregonian	Feb. —, 1881	75	..	..	25	2
Seattle Post Intelligencer	Nov. 13, 1883	65	15	..	20	3
San Francisco Chronicle	July 22, 1884	5	..	5	90	3
Portland Oregonian	Apr. —, 1885	65	..	10	25	3
Oakland Tribune	June 8, 1885	50	..	..	50	3
San Francisco Call	Jan. 14, 1885	30	..	..	70	3
San Francisco Chronicle	Apr. 29, 1889	..	20	..	80	4
Oakland Tribune	Jan. 23, 1890	20	10	..	70	3
Portland Oregonian	Aug. —, 1890	20	20	..	60	3
San Diego Sun	Apr. 2, 1891	..	15	..	85	2
Oakland Enquirer	July —, 1892	10	45	..	45	2
Seattle Post Intelligencer	Aug. 16, 1893	..	35	..	65	..
San Francisco Chronicle	July 15, 1894	..	40	..	60	2
Portland Oregonian	Nov. —, 1895	10	40	..	50	2
Oakland Tribune	Jan. 23, 1895	..	30	..	70	3
San Francisco Chronicle	July 3, 1898	..	25	..	75	2
Los Angeles Express	Jan. 7, 1898	..	20	..	80	3
Portland Oregonian	Aug. —, 1900	..	40	..	60	2
Los Angeles Times	Feb. 18, 1900	..	10	..	90	3
Oakland Tribune	Mar. 23, 1900	..	20	..	80	3
Average		..	..	..	..	3.5

white book paper, 25 cents. In 1895, with final development of the present types of wood-fiber papers, the cost had dropped to 2.5 cents per pound for newsprint and 4.5 cents for book paper.

Protective Measures

The preservation of newsprint is difficult because it lacks sufficient strength to withstand much handling, and, on account of the large size of newspaper sheets, they are subjected to greater strains while being handled than most other forms of records. Owing to the large content of crude fiber, newsprint, if unprotected, rapidly discolors and becomes brittle, through chemical reactions which are greatly accelerated by light.

Newspapers to be retained in permanent files are commonly bound before use of them is permitted. A good practice in binding is to interleave the newspaper sheets with strong paper which projects beyond the edges of the newspaper sheets so that they can be turned without being touched. The use of diffused illumination throughout libraries is a desirable precaution for minimizing the effect of light on paper, and the paper should be guarded against acidic air and adverse humidity and temperature *(1)*.

There has been considerable investigation of the use of protective coatings and impregnations to increase the strength of newspapers and to retard the chemical reactions which cause their decay *(4)* *(5)* *(6)*. The chief requirement of the added material is, in addition to increasing the resistance of the paper to wear, to make it as impervious as possible to air without making it too heavy or bulky or obscuring the printing too much. Impregnations with gums, starches, varnishes, cellulose esters, and other materials have been tried by various investigators but without entirely satisfactory results. Likewise the use of transparent cellulose sheetings, silk, chiffon, and tissue paper for protective coatings has been investigated. After extensive study of such materials, the New York Public Library decided that high-grade japanese tissue paper was the most suitable. *(5)* Following are the details of the practice employed at that library for this material.

The tissue paper is pasted to both sides of each newspaper sheet with a mixture of pure rice starch and tapioca dextrin. A specially devised table is used for the pasting operation. This has a glass top and a sliding carrier which smooths out the tissue after it has been applied to the newspaper sheet. The paste is spread on the glass, a sheet of tissue is laid on the paste, and paste is brushed on the upper side of the tissue. The newspaper sheet is laid on the tissue and covered with another sheet of tissue, each being brushed with paste as soon as they are laid down. A rod is inserted between the overlapping tissue sheets and the combination is hung in a dryer where it remains for 24 hours. The combined sheets are next pressed between boards for 24 hours, trimmed, and run through a gas-heated mangle having steel rollers, to smooth the sheets. They are finally reassembled, sewed, and bound.

Tests made at the Bureau of papers covered in this manner by the New York Public Library, as compared with tests of some of the same papers not covered, showed that the strength of the paper was increased three to four times by the treatment, and that its retention of strength and color, when exposed to accelerated aging by light and heat, was very much better than that of the uncovered paper. It was concluded that the use of japanese tissue should greatly prolong the life of newspapers. Test data for the issue used by the New York Public Library are given in Table IV.

TABLE IV.—TESTS OF JAPANESE TISSUE PAPER USED FOR COVERING NEWSPAPERS[1]

	Original	Heat treated [2]
Weight (500 sheets, 25 by 40 inches).....pounds	6.83	....
Thickness .....inch	.0017	....
Alpha cellulose .....per cent	89.15	88.37
Copper number .....per cent	1.41	1.54
Acidity as sulphuric anhydride.....per cent	.16	....
Ash .....per cent	.57	....

[1] All tests reported herein, with the exception of the heat test, were made by the standard methods of the Technical Association of the Pulp and Paper Industry.

[2] Heated 72 hours at 100 deg. C.

The high proportion of alpha cellulose and low copper number, and the slight change in them on heating, which the Bureau uses as a test for stability, together with the low acidity, are all indications of a very stable paper. Some disadvantages of the use of the tissue are that it obscures the printing somewhat, doubles the weight of the sheet, and trebles the bulk. The New York Public Library has a cooperative joint cost arrangement with several newspaper publishers whereby it coats the papers with japanese tissue and stores them in its files.

The high degree of transparency, tensile strength, imperviousness, and smoothness of transparent cellulose sheetings have directed attention to their possibilities for use as protective coverings. Both viscose and cellulose acetate sheetings, and newspapers covered with them were tested for stability by subjecting them to light and heat. The viscose sheeting, which was a nonwaterproof product, was found to be unstable; both the sheeting and the combination of sheeting and newspapers became brittle and discolored rapidly under the influence of both heat and light. On the contrary, both the cellulose acetate sheeting and newspapers covered with it were very resistant to heat and light. It is possible, of course, that other viscose products would prove to be more stable.

The viscose sheeting tended to wrinkle but this was avoided by saturating it with water before pasting. The following combination was made up: Blotter, water-saturated viscose sheeting, newspaper sheet having a thin coating of starch paste on each side, water-saturated viscose sheeting, blotter. The combination was placed between polished metal plates, pressed at 750 pounds, and dried between heated rolls after removing the blotters. The acetate type of sheeting had the added advantages of being available in sheets only 0.001 inch thick, and of being thermoplastic. The best results in applying it were obtained by the following procedure: The sheet of newspaper was placed between 2 slightly larger sheets of the cellulose sheeting, blotters were placed on each side, followed by polished steel plates, and the combination was then pressed in a hot press at 265 F. and 750 pounds for 3 minutes. A strong, firmly bound composite, with sealed edges, is obtained in this way. The use of only sufficient heat and pressure to secure good adhesion of the sheets is advisable. The thickness of the combined sheets was only 0.0005 inch greater than that of the newspaper sheets because of the compression of the combination, but the weight was increased 2.5 times.

Impregnation of newspapers with cellulose acetate solutions of different consistencies was tried, but this treatment was considered unsatisfactory as it did not add the desired strength to the treated papers. Cellulose nitrate sheetings, which include celluloid, are relatively unstable and may have a deteriorative effect on paper kept in contact with them.

There is need of further research on this problem of preventing or at least retarding the deterioration of impermanent record papers, to obtain improved results with respect to both the efficiency and cost of coating and impregnating materials.

Reproduction of Newspapers

Of the photographic processes available for the reproduction of records, photostatic, photolithographic, and filmslide appear to be the most feasible means for reproducing newspapers.

Where a limited amount of copying is to be done either photostatic or photolithographic printing is satisfactory. The relative cost of the 2 methods depends on the number of copies desired. According to information received from Robert C. Binkley, who is making an extensive survey for the joint committee on materials for research of the Social Science Council and the American Council of Learned Societies, of methods for reproducing records, the dividing line of cost for photostatic printing and photolithography, in an establishment which has facilities for both of them, is between 15 and 20 copies.

Stable book papers suitable for offset printing are available. The Bureau has published a suggested classification and specification of book papers for the various classes of records. *(7)* At the request of the Library of Congress, extensive tests were made of both foreign and domestic photostat papers, relative to permanent reproduction by the Library of records of early American history stored abroad. The test data have the same characteristics as those secured for book and writing papers. Very high-grade papers which appear to be suitable for permanent records are available but many of the papers described as suitable for this use were found to be of unsatisfactory quality. Data for one of the best papers, after it had been printed by the usual photostatic process, are shown in Table V.

TABLE V.—TEST DATA FOR PRINTED PHOTOSTAT PAPER USED FOR PERMANENT RECORDS

Weight (25 by 40 inches, 500 sheets)	pounds	79
Bursting strength	pounds	81
Folding endurance (machine direction)	double folds	3,100
Folding endurance (cross machine direction)	double folds	2,200
Ash	per cent	1.33
Resin	per cent	1.72
Alpha cellulose	per cent	96.4
Copper number	per cent	0.82
Acidity as sulphuric anhydride	per cent	0.05

When this paper was heated for 72 hours at 100 deg. C, it lost practically none of its high folding endurance. Its high strength and stability fit it particularly well for permanent records that are handled considerably. Many of the papers tested had stability and other qualities equal to this one, but less strength, and are no doubt suitable for records which are not handled much. Folding endurance as low as six double folds was found. Photostatic prints on permanent paper do not fade if they are fixed and washed by the best practice. The completed print consists of an image of metallic silver embedded in a thin layer of high-grade gelatin, and these materials are stable in themselves when properly prepared.

For large-scale reproduction of newspapers, the use of film slides is much less expensive than the other methods and has the important advantage of conservation of storage space. A standard newsprint sheet may be contained on a film slide of 1 inch by 1.25 inch and the record projected, by special apparatus devised for the purpose, in enlarged form for reading. Unfortunately, the permanence of the present types of films, either the more commonly used cellulose nitrate film or the cellulose acetate film ("safety film") is doubtful, although experience with them has indicated that they will retain their serviceability for many years if they are stored under carefully controlled humidity and temperature conditions, and used with precautions relative to the conditions under which they have been stored. *(8)* While the prints can be reproduced, it is not known whether clear reprints can be obtained indefinitely. Photographic glass plates containing the miniature print warrant consideration for permanent reference copies. To minimize wear and breakage they need be used only for reproducing the prints on film slides.

Newsprint for Permanent Editions

The special editions of newspapers printed on high-grade paper for the permanent files of libraries have been mentioned. The development of special paper for this purpose was necessary since no paper was available which possessed the required stability and strength, combined with the texture, softness, and opacity essential for satisfactory printing by the regular newspaper process. After considerable experimentation by papermakers and newspaper publishers, in which the Bureau cooperated through tests of experimental papers and advice respecting further improvement of them, suitable papers were developed. Table VI gives test data for one paper in use which is considered satisfactory in all respects:

TABLE VI.—TEST DATA FOR NEWS PRINT USED FOR PERMANENT EDITIONS OF NEWSPAPERS

		Original	Heated at 100 deg. C. for 72 hours
Fiber, rag	per cent	100	...
Weight (25 by 40 inches, 500 sheets)	pounds	43.6	...
Thickness	inch	0.0032	...
Folding endurance (machine direction)	double folds	320	330
Folding endurance (cross-machine direction)	double folds	54	55
Brusting strength	points	20	...
Ash	per cent	4.2	...
Resin	per cent	1.2	...
Acidity	per cent	0.04	.05
Copper number		0.98	1.18
Alpha cellulose	per cent	94.8	93.0
Opacity	per cent	85	...

The high alpha cellulose and low copper number of this paper denote excellent fiber quality, and the low content of resin and acid are other desirable properties. The slight changes in the paper under the severe heat test indicate a very stable paper.

Recommendations

The following are indicated as important considerations with respect to the perpetual preservation of the newspaper records:

1. The tissues printed on permanent paper should be available for a great many years, but may ultimately be lost due to failure of the paper with repeated handling. Such losses can be minimized by protective coatings.

2. The durability of impermanent newsprint can be greatly increased by protective coatings, but it is doubtful whether any known treatment will prevent its ultimate decay.

3. In the light of our present knowledge about the permanence of materials on which to copy important records, and pending the development of less expensive or more satisfactory materials and methods, an effort should be made to copy the most valuable of the older newspaper records on permanent paper by photostatic printing or photolithography.

4. The conservation of storage space in the central public libraries and others which deal with all classes of publications is a vital problem because of the ever-increasing flood of publications. The newspapers require an excessive amount of storage space.

5. Reproduction in miniature appears to be the ideal means of preserving newspaper records.

6. The technic for making miniature prints of newspaper records on transparent slides and projecting them in enlarged form for reading appears to have reached satisfactory development.

7. Information from a number of sources indicates that the life of the types of flexible film thus far used in

copying records in miniature is probably less than a generation. It is important that further information be developed about materials suitable for copying in miniature, especially with reference to their permanence and the optimum storage conditions.

In view of the foregoing, it is recommended that a coordinated effort be instituted at once by library and scientific organizations to find the most practicable means for the perpetual preservation of the newspaper records; that the perfection of materials and methods for reproduction in miniature be given primary consideration; and that consideration be given to the establishment of a central agency for supplying reproductions of newspapers and other records to libraries.

Acknowledgment

The assistance of J. F. G. Hicks and A. E. Kimberly in this study is gratefully acknowledged.

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Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Beating

Replaceable Back Fall for Breaker Beaters. Cliff R. Crawford assignor to The Black Clawson Co. U. S. pat. 1,950,713 (March 13, 1934).—In a breaker beater provided with a perforated back fall, the working surface consists of a removable plate that is easily replaced when it is worn out.—A.P.-C.

Method of and Apparatus for Hydrating Cellulose Pulp. William T. Doyle assignor to Sturtevant Mill Co. U. S. pat. 1,949,534 (March 6, 1934).—A suitable dewatering apparatus, such as a screw press or a cylinder mold, is used in conjunction with the "hammer mill" covered by Doyle's U. S. pat. 1,905,161 of April 25, 1933, so that the pulp is fed to the machine at as high a consistency as possible. It is diluted directly in the machine while being hydrated, preferably with the water removed in the dewatering apparatus.—A. P.-C.

Hydrating Mercerized Paper Pulp. George L. Schwartz assignor to E. I. du Pont de Nemours and Co. U. S. pat. 1,944,906 (Jan. 30, 1934).—A product suitable for use in making artificial leather is prepared by treating mercerized but substantially unpurified paper pulp, of pentosan content over 5 per cent, with water until the pulp is hydrated.—A.P.-C.

Continuous Beater System. Paul E. Lacy assignor to West Virginia Pulp and Paper Co. U. S. pat. 1,958,855 (May 15, 1934).—Pulp is thickened to a consistency of 8 to 30 per cent, mixed with white water and (or) reclaimed stock from the paper machines, and also additional fresh water if necessary, to bring it to a consistency of 3 to 5 per cent. Clay, coloring matter and alum are added and the stock is passed to a continuous beater consisting of a number of compartments with rounded bottoms, in each of which is mounted a horizontal, perforated, drum which is rotated at about 10 r.p.m. The outer surface of each drum is provided with longitudinal or helical blades. The stock is pumped through each compartment in series, the level being maintained at a height of about two-thirds of the diameter of the drum and a portion of the stock from each compartment being recirculated in the same compartment.—A.P.-C.

Method and Apparatus for Reconditioning Broke. Fredrik Gerwin assignor to American Voith Contact Co., Inc. U. S. pat. 1,960,106 (May 22, 1934).—Dry broke and slitter trimmings are delivered through a suitable hopper into a trough located in the machine-room basement, means being provided for spraying the paper with water as it passes from the machine-room to the basement. Breaking and defibering mechanism is provided and is designed and constructed so as to recirculate the material until it has been completely repulped when it is discharged through a screen which retains incompletely-pulped material.—A.P.-C.

Refining and Beating Engine. Graham P. Prather assignor to Dilts Machine Works, Inc. U. S. pat. 1,960,753 (May 29, 1934).—The invention utilizes a tub somewhat similar in construction to a beater tub, in which is mounted a refining element generally similar to a Jordan plug or shell.—A.P.-C.

Bleaching

Bleached Refined Cellulose Pulp. George A. Richter assignor to Brown Co. U. S. pat. 1,945,202 (Jan. 30, 1934).—A bleached, refined, soft and absorbent cellulose pulp in unmercerized condition is derived from long raw fibers such as hemp, jute, china grass, ramie, manila and sisal, by a described digestion with caustic soda solution and has an alpha-cellulose content of at least about 93 per cent and can be converted into stable paper of greater tear resistance than papers prepared from the raw fibers.—A. P.-C.

Purified Cellulose Pulp. George A. Richter assignor to Brown Co. U. S. pat. 1,949,549 (March 6, 1934).—Soda or sulphate pulp is treated for 30 min. to 2 hrs. at not over 50 deg. C. with a 5 to 8 per cent caustic soda solution in sufficient amount to give a consistency of 5 to 6 per cent. The washed product has a pentosan content of not over 5 per cent and a tear resistance at least 50 per cent greater than that of the untreated pulp.—A.P.-C.

Bleaching Pulp. John Traquair and Francis G. Rawling assignors to Mead Corp. U. S. pat. 1,942,622 (Jan. 9, 1934).—Pulp at high consistency and chlorine gas are moved relatively to each other through a treating chamber, and the excess chlorine is continuously washed from the treated material prior to its discharge from the treating chamber.—A.P.-C.

Process for Producing Practically Pure Cellulose

(Alpha-Cellulose) from Raw Cellulose of Any Origin. Francesco C. Palazzo and Fortunato Palazzo. U. S. pat. 1,959,734 (May 22, 1934).—Pulp is cooked for 1 to 3 hrs. at a pressure of 0.5 to 2 atmospheres in liquor containing 0.5 to 1.5 per cent caustic soda and 0.25 or 0.75 per cent sodium sulphite. The cooked material is bleached at a consistency of 5 to 6 per cent in a solution of calcium or sodium hypochlorite containing 1 to 2 per cent available chlorine and rendered slightly alkaline by addition of a small amount of lime or soda ash, and after washing, given a final bleach with 1 per cent potassium permanganate solution in 2 per cent sulphuric acid solution. The finished product contains 96 to 99 per cent alpha-cellulose, 0.2 to 0.8 copper number, 0.05 to 0.15 per cent ether extract, and 0.10 to 0.18 per cent ash.—A. P.-C.

Pulp Bleaching Process. John Campbell and Lancelot O. Rolleston assignors to International Paper Co. U. S. pats. 1,957,937 and 1,957,938 (May 8, 1934).—*No. 1,957,937*—Pulp having less than 85 per cent (preferably less than 70 per cent) water is subjected to vacuum and treated directly with chlorine gas. Excess chlorine is removed by vacuum and the material is washed to remove chlorination products. *No. 1,957,938*—Pulp is treated with an alkaline reagent (preferably caustic soda), dewatered to a moisture content of less than 85 per cent (preferably between 50 and 75 per cent), subjected to a vacuum, and treated with chlorine gas; excess chlorine is removed (*e.g.*, by passing air through the pulp) and the pulp is washed. The whole series of operations may be repeated.—A.P.-C.

Method of Bleaching Paper Pulp. Robert B. Wolf, Raymond S. Hatch and Raymond P. Hill, assignors to International Bleaching Corp. U. S. pat. 1,960,613 (May 29, 1934).—Chlorine in the liquid or gaseous state is added directly to pulp at a consistency of not over 4 per cent and the pulp is subjected to intense agitation and rapid circulation to prevent bubbles of chlorine from rising through the stock.—A.P.-C.

Process of Purifying Chemical Pulp. George A. Richter assignor to Brown Co. U. S. pat. 1,953,191 (April 3, 1934).—Pulp is treated with chlorine water at a temperature of 40 deg. to 80 deg. C. It is then treated with an alkaline solution and bleaching is completed by known methods. —A.P.-C.

Pulp Bleaching Process and Apparatus. David B. Davies. U. S. pat. 1,953,076 (April 3, 1934).—The process consists in injecting gaseous or liquid chlorine into a moving stream of dilute pulp (consistency of about 3 or 4 per cent) using the heat of expansion of the chlorine to cool the stock. The bleaching action thus obtained represents from 30 to 50 per cent of the total bleaching required. Bleaching can be completed with calcium hypochlorite in one or two stages in the usual manner. The apparatus comprises a tower about 10 ft. in diameter and 50 ft. high; the stock is fed in at the bottom through a vertical pipe extending above the tower. The chlorine feed pipe extends into the pulp feed pipe at a level near the top of the tower and extends downwards an appreciable distance so that the cold expanded gas may cool the stock surrounding the chlorine pipe. A number of outlets are provided in the tower at a level slightly above the middle; they are connected to a pump which recirculates part of the stock in the tower.—A. P.-C.

Process for Bleaching of Textiles and Organic Materials. Felix Muller, Essen. Ger. pat. 592,933 (May 3, 1931).—The bleaching takes place by the aid of nitrogen dioxide in the presence of ozone, the gases being mixed before their use.—J.F.O.

Bleach Liquor and the Bleaching of Pulp. Ecke. Wochbl. Papier-fabr. 65, No. 10; 169-172 (March 10, 1934).—A comprehensive and valuable treatise on the preparation of bleach liquor and its use.—J.F.O.

Sizing

Sizing Papers with Roumanian Rosin. V. Hodivoianu. Bul. chim. soc. romane chim. 35:11-16 (1934); C. A. 28:3898.—The efficiency of Roumanian rosin from *Picea excelsa* L. as a sizing agent compared favorably with that of an American rosin. Ninety per cent of the Roumanian forests constitutes a potential rosin source sufficient to supply the domestic paper industry.—C.J.W.

Emulsion for Sizing and Impregnating Paper, Cardboard, etc. Vsesyuznuii Nauchno-Issledovatelskii Institut Bumazhnoi i Tzellyuloznoi Promuishlennosti. Russian patent 31,751. Oct. 31, 1933. C. A. 28:3234.—An aqueous emulsion of kaolin of the consistency of heavy cream is mixed with a bitumen melted to low viscosity.—C.J.W.

Method of Making Sizing Material. Izador J. Novak assignor to Raybestos Manhattan, Inc. U. S. pat. 1,958,202 (May 8, 1934).—Paper is engine-sized by means of a fatty acid size consisting of a free fatty acid emulsified in a solution of a relatively minor proportion of an alkali of the same fatty acid. The method is particularly suitable for sizing asbestos fibers.—A.P.-C.

Sizing Paper with a "Synthetic Super-Resin" of Petroleum Origin. Carleton Ellis assignor to Standard Oil Development Co. U. S. pat. 1,948,442 (Feb. 20, 1934). —Paper is treated with a synthetic resin composition such as an emulsion comprising gas-oil synthetic resin and paraffinic acids obtained by the oxidation of paraffin wax. —A.P.-C.

Recovery of Rosin Size from Paper. Shigenari Yano. U. S. pat. 1,949,000 (Feb. 27, 1934).—Rosin-sized paper is subject to steaming at 55 deg. to 100 deg. C.—A.P.-C.

Sizing Paper Filled with Alkaline Filler. Harold R. Rafton assignor to Raffold Process Corp. U. S. pat. 1,957,474 (May 8, 1934).—A moderate sizing of paper containing an alkaline filler is obtained by using an organic, substantially water-insoluble, non-waxy material inert towards the alkaline filler.—A.P.-C.

Method of Making Free-Rosin Emulsion. J. A. De Cew. U. S. pat. 1,958,470 (May 15, 1934).—A dilute free-rosin size emulsion is obtained directly in a single operation by adding caustic alkali and crushed rosin to water at 120 deg. to 180 deg. F., with stirring. The amount of caustic soda should be less than 4 per cent (and preferably less than 1 per cent) of the weight of water used and must be less than 12 per cent of the weight of rosin used. A dilute size containing up to 50 per cent free rosin can be obtained in this way.—A. P.-C.

Sizing Paper. George J. Manson assignor to Manson Chemical Co. U. S. pat. 1,942,438 (Jan. 9, 1934).—A wax such as paraffin or a vegetable wax, an organic dispersing agent such as glue or casein and an organic stabilizer such as formaldehyde are used together.—A. P.-C.

Sizing Paper. Elbert C. Lathrop and Fergus A. Irvine assignors to The Celotex Co. U. S. pat. 1,943,975 (Jan. 16, 1934).—Ferric chloride is used as a size precipitant in varying proportions to give a desired color to the sized product.—A. P.-C.

Coating and Filling Materials

Influence of Chemicals on Filler Retention. I. E. Shcheglov. Materialien Inst. (U. S. S. R.) 1933, No. 3; Zellstoff u. Papier 14:152-153 (1934); C. A. 28:3898.—The addition of chemicals (sodium silicate, alum, sodium hydroxide) to the stock in the beaters resulted in increased retention of the filler. Small amounts of sodium hydroxide are necessary to soften hard waters. Sodium hydrox-

ide also favors hydration of fibers. The substitution of sodium silicate for sodium hydroxide (on the basis of equivalent alkalinities) does not yield as favorable results. The following procedure is recommended for commercial beating: Depending on the hardness of the water, 0.1-0.4 per cent of sodium hydroxide (based on weight of dry fibers) is added to the water in the beater, followed by the pulp and filling materials. About 20-25 minutes after the addition of the kaolin (20-23 per cent), 2.9-3.5 per cent (basis dry pulp) alum is added. The hydrogen ion concentration of the mixture in the beater should not be above 8.8, in order not to require excessive amounts of alum. All of the results indicate that colloid chemistry plays an important role in the loading process, especially when the filler is a finely divided material. For practical use the following formula can be used to calculate retention, on the basis of the dry fiber; $(100x—75)/(87—x)$, where x is the ash content of the paper or of the stock in the mixing chest.—C. J. W.

Application of Nephelite in the Paper Industry. M. Robinov and I. Markovich. Bumazhnaya Prom. 13, No. 2:45-49 (1934); C. A. 28:3894.—The best results were obtained by the decomposition of urtite with eight parts of 12-18 per cent sulphuric acid with the utilization of the decanted liquor. The decomposition of urtite with alkalies produced negative results.—C. J. W.

Gypsum for the Manufacture of Paper. Belani, Wochbl Papier-fabr. 65, No. 9:148-149 (March 3, 1934).—Due to the high cost of the imported pearl white, a gypsum deposit in the Harz region was developed and the product marketed to the paper trade. All the important facts concerning its development, properties and use are given. The author prefering the protective colloid method for adding gypsum to the paper stock.—J. F. O.

Process for the Preparation of Printing and Artificial Printing Paper. Peter Spence & Sons Ltd. Ger. pat. 596,157 (July 29, 1931).—The coating consists of finely divided calcium sulphate which is made from water-free concentrated sulphuric acid.—J. F. O.

Device for Parchmentizing, Coating, Gluing or for Similar Treatments of One or More Webs of Paper. Carl Wagner, Munich. Ger. pat., 593,700 (March 25, 1932).—J. F. O.

Device for Parchmentizing, Coating, Gluing or for Similar Treatments of One or More Webs of Paper. Carl Wagner, Munich, Ger. pat. 593,701 (Dec. 21, 1932).—Improvements on the original patents.—J. F. O.

Loading Paper with Zinc Sulphide Pigments. Howard M. Cyr assignor to The New Jersey Zinc Co. U. S. pat. 1,954,799 (April 17, 1934).—In order to prevent blackening of paper containing zinc sulphide pigments by copper salts which may be present in the stock the zinc sulphide pigment is added as late as possible, just before dropping the beater, and the pH is controlled so as not to fall below 4.5, and is subsequently raised to preferably 5 or over before feeding to the paper machine.—A. P.-C.

Coated Paper. Charles L. Gabriel assignor to Commercial Solvents Corp. U. S. pats. 1,946,203 to 1,946,205 (Feb. 6, 1934).—*No. 1,946,203*—Paper which may be used as a moisture proof wrapping is prepared by coating with a composition containing a cellulose ester such as cellulose nitrate or acetate, together with an ester formed from a polybasic acid esterified conjointly with poly- and mono-hydric alcohols such as glycerin butyl (or benzyl) phthalate. *No. 1,946,204* relates to paper coated with generally similar compositions such as may contain cellulose nitrate or acetate together with glycol butyl (or benzyl) phthalate. *No. 1,946,205* relates to coating paper with cellulose nitrate or acetate or the like together with a natural ester of a polybasic acid and a dihydric alcohol such as ethylene (or propylene) glycol phthalate.—A. P.-C.

Apparatus for Drying Coated Paper. Charles C. Willis assignor to John Waldron Corp. U. S. pat. 1,951,004 (March 13, 1934).—The coated paper is fed into the top of a conveyor consisting of a series of transverse supporting bars mounted at their ends on two endless chains. The conveyor passes through a chamber in which it travels back and forth, reversing thereby the direction of travel of the web of coated paper. Strong air blasts are blown against the coated side of the paper to hold it against the supporting bars. The latter are periodically displaced relatively to the paper to prevent marking.—A. P.-C.

Filled Surface Paper. Charles P. Boyers assignor to The Champion Coated Paper Co. U. S. pat. 1,944,835 (Jan. 23, 1934).—Excess aqueous mineral coating composition, such as one containing calcium carbonate, etc., is applied to a moving web of paper, and the excess coating material is removed to leave a residual coating in the surface pores of the paper, by a smooth rounded surface having a radius of curvature not exceeding five-thirty-seconds of an inch at the point where the paper leaves the surface.—A. P.-C.

Process for Producing a Water-Repellent Coating on Paper. Alfred E. Van Wirt assignor to Imperial Paper and Color Corp. U. S. pat. 1,950,279 (March 6, 1934).—A washable wall paper is made by applying to the base paper a coating containing a sizing material such as casein, animal glue or albumin, drying the coating, and spraying with a suitable hardening or insolubilizing agent such as formaldehyde or metallic salts. If designs are to be printed, this is done after drying the coating and before applying the hardening agent.—A. P.-C.

Process of and Apparatus for Coating Paper. Charles G. Bright assignor to Paper Patents Co. U. S. pat. 1,957,817 (May 8, 1934).—The coating unit is mounted at a suitable point in the drier section of the paper machine. A thin layer of the "color" is first applied under fairly high pressure to force it into the surface layer of the paper while the latter is still somewhat damp. A thicker layer of the same "color" is then immediately applied and spread uniformly over the surface of the paper. As it passes over the next drying cylinder, it is subjected to the "bathing action" of hot air to prevent the coating from sticking the surface of subsequent drying rolls.—A. P.-C.

Apparatus for Treating Coated Paper. Henry F. Scott assignor to Dennison Manufacturing Co. U. S. pat. 1,958,721 (May 15, 1934).—In order to remove curl from gummed paper, the sheet is passed with the gummed surface in contact with a soft supporting belt (*e.g.*, of moderately soft rubber) and small hard balls (*e.g.*, of steel) are pressed on the back of the sheet and at the same time are displaced relatively to the paper.—A. P.-C.

Means for Coating and Impregnating Sheet Material. Charles J. Beaver. U. S. pat. 1,958,984 (May 15, 1934).—This patent covers improvements in the design of the machine for coating and impregnating narrow strips of paper described in Beaver's U. S. pat. 1,752,972.—A. P.-C.

Paper Coating Machine. Frank T. Powers. U. S. pat. 1,954,098 (April 10, 1934).—After leaving the "pull box," the coated paper is supported on a series of travelling cross bars between which it sags but slightly. The cross bars are driven at a slightly higher speed than the conveyor of the "pull box," so that they advance slightly more rapidly than the paper they support, thus eliminating the disadvantages observed when the bars remain in contact with the same portion of the paper throughout their travel.—A. P.-C.

Coating and Drying Machine. James Duvall. U. S. pat. 1,956,062 (April 24, 1934).—The machine consists of two large chambers connected at the top by a passageway. In each of the chambers is mounted a large wheel around which the coated paper is carried. Heated air is blown into contact with the coated side of the paper as it passes around the wheels and through the connecting passage, the air blown over the sheet near the coater being hotter than that blown near the winder. Room is provided for the coater and winder between the two wheels.—A. P.-C.

Coating Breaking Machine. Charles C. Willis assignor to John Waldron Corp. U. S. pat. 1,953,142 (April 3, 1934).—The knives or breakers are placed at 45° to the direction of travel of the paper, and the latter is supported during the breaking on a yielding support such as a belt. In order to prevent side travel of the paper, a number of relatively narrow belts are used, each of them being separately maintained under uniform tension and driven at the same speed as the paper.—A. P.-C.

Coated Paper and Method of Making Same. Joseph H. Swan, 3rd, assignor to The Gardner-Richardson Co. U. S. pats. 1,957,368, 1,957,369 and 1,957,370 (May 1, 1934).—Base paper is passed successively through three coating units which apply in order on the same side of the sheet: (1) a coating consisting of rubber latex and an oil-insoluble adhesive (*e.g.*, casein, glue or gelatin), (2) a coating consisting of a polyhydric alcohol such as glycerin, glycols, etc., an oil-insoluble adhesive such as sodium silicate, casein, glue, etc., and a binder such as an oxidized starch, starch acetate, talc, flour, chalk, etc., (3) a coating of wax, preferably paraffin. After applying the second coating, the sheet is dried by passing over a series of hot air nozzles, the pressure being sufficient to float the paper till dry. *No. 1,957,368* covers the product thus obtained and *No. 1,957,369* the method of producing it. *No. 1,957,-370* provides for producing such a product by applying the various coatings by means of suitable troughs or water boxes at the calenders.—A. P.-C.

Roll Coating Machine. Charles A. Dickhaut assignor to John Waldron Corp. U. S. pat. 1,955,414 (April 17, 1934).—On leaving the coating rolls the paper is passed in contact with a smoothing roll which travels in the opposite direction to the paper and picks off the excess coating. This excess is removed from the smoothing roll so that the surface in contact with the paper is always smooth and clean. The thickness of the coating can be regulated by proper adjustment of the speed of the roll. With double-coated paper, a smoothing roll is provided for each side of the sheet.—A. P.-C.

Drying

Stable Moisture and Hygroscopicity of (fiberboard) Cartons. A. G. Kolesnikov. Bumazhnaya Prom. 13, No. 1:32-39 (1934); C. A. 28:3899.—A mathematical treatment of the experiments in drying wet and humidifying dried pasteboard at definite temperatures.—C. J. W.

Heat Absorption of Rolls. W. Strahringer. Wochbl. Papier-fabr. 65, No. 1; 6-9 (Jan. 6. 1934).—A theoretical investigation of the heat absorption of hollow rolls with relation to the shell of the roll and the ends supporting it. The author explains his work by means of numerous equations and curves.—J. F. O.

The Influence of Super-Heat in Steam on the Heat Transfer. H. Claassen. Wochbl. Papier-fabr. 65, No. 2: 22-23, (Jan. 13, 1934).—By means of an example in actual practice, the author shows that the conditions under which Stender bases his theory of the heat transfer of condensable live steam with the following heat exchange are not at hand, and that the action on a laboratory scale is wholly otherwise in mill operation. In practice, the superheat of steam can influence the heat transfer more or less according to the conditions chosen, so that the cutting in of simple apparatus can be advantageous for the removal of the super-heat.—J. F. O.

Device for Vacuum Drying Apparatus. A. E. Jonsson, Lidingo. Swed. pat. 79,778. (Sept. 25, 1930).—J. F. O.

Arrangement on the Cylinder Drying Machine. C. Rosenblad, Stockholm. Swed. pat. 79,632. (Feb. 28, 1930). —The device improves on the air circulation within the cylinders used for the drying of paper and similar materials.—J. F. O.

Press Mat of Woven or Braided Metal Wires for Pressing the Water from Ground Wood, Pulp Boards and Similar Materials. Nicolay Paus, Oslo. Nor. pat. 53,295. (Nov. 25, 1930).—J. F. O.

Arrangement for the Drying of Dryer Felts on the Paper Machine. R. Schulze Aachen, Germany. Finn. pat. 15,430 (June 10, 1932).—Cylinders or rolls are built in the drier section. The drier felt passes over these cylinders which are perforated or provided with slits through which warm air is blown on to the drier felt.—J. F. O.

Device for Conveying the Condensate from Steam Heated Calender Rolls. W. A. Silfersparre, Manntta. Finn. pat. 15,431 (Sept. 30, 1931).—J. F. O.

Dryer Device for Wet Bark, Ground Wood and Similar Materials. H. Eklund, Myllykoski. Finn. pat. 15,442 (Jan. 7, 1932).—The device consists of an horizontal tank which holds a charge of material which is dewatered by means of pressure.—J. F. O.

Process and Apparatus for Drying Fibrous Sheets or Webs. Arlie W. Schorger assignor to Burgess Cellulose Co. U. S. pat. 1,951,710 (March 20, 1934).—In the case of individual sheets dried on a single large highly polished drying cylinder, one or more sheets (as many as can be placed around the cylinder without overlapping) are fed between the cylinder and a felt passing around a considerable portion of the circumference. The sheets are carried around for a sufficient number of revolutions to obtain the desired degree of dryness. A small polished press roll is provided on top of the drier, where the latter is not engaged by the felt, and the pressure of the roll on the drier is gradually increased while drying progresses. When drying is complete, the press roll is raised and a doctor is lowered to strip the sheets from the drier. The method can be applied to webs that are dried on a series of drying cylinders by providing several of the latter with press rolls, and progressively increasing the pressure from the wet to the dry end.—A. P.-C.

Siphon Exhaust for Drier Rolls. George H. Young. U. S. pat. 1,953,525 (April 3, 1934).—The siphon tube comprises a straight section extending axially through the hollow trunnion and a dependent intake portion suspended within the roll and connected with the first section by an intermediate flexible section preferably consisting of woven metallic hose. Means are provided for adjusting from the outside the position of the intake section relatively to the inside wall of the drier.—A. P.-C.

Paper Machine Suction Box. Ernest Lamort assignor to Société E. et M. Lamort Fils. U. S. pat. 1,950,853 (March 13, 1934).—In a suction box the sides of which are formed by rotating rolls, leakage of air into the box through the space between the rotating sides and the stationary bottom of the box is prevented by applying suction or forcing a fluid under pressure in a nozzle which constitutes an ejector and entrains the air adjacent to the joint; this may also be used to draw off part of the water

that passes into the suction box through the machine wire. —A. P.-C.

Analysis and Testing

Determination of the Percentage of Chemical Pulp in Paper by Measuring the Fiber Density. A. Backman. Finnish Paper and Timber J. 16, No. 7:302, 304, 306-308; No. 8:392, 394, 396 (Apr. 12, 30, 1934).—The four best known chemical methods for determining the percentage of chemical pulp in newsprint (Cross, Bevan and Briggs; Kotilhasker, Halse, and Noll and Hölder) are critically examined. A quantitative microscopical method developed at the Central laboratory in Helsingfors, Finland, is described, which is based upon the density of the fiber and for the details of which the original should be consulted. It is claimed that the accuracy of this method, especially for low values, is greater than that of the chemical methods, the results becoming less reliable only for values above 60 per cent of chemical pulp.—C. J. W.

Opacity of Wood Pulp. H. Roschier. Finnish Paper and Timber J. 16, No. 7:296-298, 300-302 (Apr. 12, 1934). —The author shows how opacity is affected by the cooking and drying process, the colloidal character of the pulp and the refractive index of the fillers. Opacity increases when sulphate is added to sulphite or when the short fiber fraction of an unbeaten pulp is used, instead of the long fiber fraction or the original pulp. Roschier considers that the best method for determining opacity is the one based on the measure of contrast ratio and employing a photoelectric cell.—C. J. W.

Microscopic and Micrographic Testing of Paper. A. R. Matthis. Ann. chim. anal. chim. appl. 16:1-14, 49-57, 97-112 (1934); C. A. 28:2293, 2901.—A review is given of methods used for identifying fibers under the microscope. In the third paper the microscopic appearances of some of the fibers likely to be encountered are shown and described. The preparation of the sample for microscopic examination is also considered.—C. J. W.

Use of Copper-Ammonia Solutions for the Determination of Impurities in (cotton) Linters. A. P. Zakoshchikov. Iskusstvennoe Volokno (Artificial Fiber) 5, No. 1:36-39 (1934); C. A. 28:3893.—Expose 1.5-3 grams of crude or refined linters to the fumes of hydrochloric acid for about one minute and then to ammonia, wash, dry and dissolve in Schweitzer's reagent, filter, wash the insoluble residue and weigh.—C. J. W.

Fluorescence Microscopic Investigation of Fiberous Materials for Paper. B. Schulze and E. Gothel. Wochbl. Papier-fabr. 65, No. 7:111-115 (Feb. 17, 1933).—After a few introductory remarks concerning the phenomena of fluorescence and a review of previous literature on the fluorescence microscopic investigation of fiberous materials for paper, the author describes the use of the luminescence apparatus. The coloring of fibers with fluorescent dyestuffs gave the following positive results. 1. By means of rhodamine 6GH bleached sulphite from the coniferous woods can be distinguished from bleached sulphate. 2. With sulpho-rhodamine, unbleached sulphate can be distinguished from bleached sulphite or sulphate providing no unbleached sulphite is present. Geranin G also gives a particular fluorescence with unbleached sulphate. 3. Gampi and Mitsumata gives a uniform orange red fluorescence with rhodamine 6GH. 4. Adsonia fibers gives a uniform bright blue with brilliant dianilgreen G, manila and jute fibers bright blue and yellowish green. 5. White ground wood gives a bright blue fluorescence with brilliant dianilgreen G, cooked ground wood gives a dirty yellow to olive green. 7. Spring and summer wood can be distinguished by means of brilliant dianilgreen G, and this independent of the cooking or bleaching. All results are tabulated.—J. F. O.

Device for Testing the Degree of Sizing of Paper. Leslie C. Currier assignor to The Sorg Paper Co. U. S. pat. 1,953,155 (April 3, 1934).—The test sheet is supported on a conducting plate. A container of water which is closed with a pad of absorbent material is lowered with the pad in contact with the sheet. When the water has penetrated through the paper it closes a circuit including a milliammeter and a suitable amplifying tube. Degree of sizing is evaluated by noting the time required to obtain a given reading on the milliammeter.—A. P.-C.

The Most Important Modern Instruments for the Determination of the pH Value. A. Karsten. Wochbl. Papier-fabr. 65, No. 3:42-44 (Jan. 20, 1934).—The author first describes the two basic methods, colorimetric or optical and the electro-potentiometer. Then the following are discussed; "light-electric" colorimeter by Lang, multiple stage colorimeter by Duboscq, double wedge colorimeter by Bjerrum Arrhenius, colorimeter by Michaelis, foil colorimeter by Wulff, Lyoskop by Kordatzki, the potentiometer by Thrun, control ion meter by Trenel and the portable ion meter by Lautenschlager.—J. F. O.

Thickness and the Feel of the Paper. Togo. Wochbl. Papier-fabr. 65, No. 4:63-64 (Jan. 27, 1934).—A general discussion of the thickness and the feel of paper, and especially the factors which influence the "feel" of the paper.—J. F. O.

Paper Specialties

Corrosion of Paster Metal Foils. Papier-Ztg. 59, No. 20:364-366; No. 34:612-613 (Mar. 10, Apr. 28, 1934).—Corrosion phenomena upon pasted aluminum foils are discussed, which occur in spite of faultless conditions of foil, carton and paste. Different assumptions as to the reason of the defects are given, humidity being considered a very detrimental factor. Aluminum foils should always be stored in very dry places.—C. J. W.

Corrosion Defects in Aluminum Foils. M. Marini. Industria carta 1, No. 2:65-67 (Feb., 1934).—Aluminum foils are very apt to show certain corrosion defects, the exact origin of which has not yet been ascertained. The author gives his ideas with regard to the probable causes. —C. J. W.

The Effect of Elevated Temperature on the Properties of Condenser Paper. V. T. Renne and N. A. Sapogov. Bumazhnaya Prom. 13, No. 2:73-77 (1934); C. A. 28:3898. The changes in mechanical properties of all tested papers were identical on subjecting them to prolonged heating at higher temperatures. Paper with high contents of chemical cellulose resist heat better than the papers with high contents of mechanical wood pulp. The temperature of drying of cellulose paper should not exceed 100-150 deg. and the drying of mechanical wood-pulp paper at 100-150 deg. should not be longer than 5-6 hours to prevent the lowering of electrical properties.—C. J. W.

Properties of Unimpregnated Condenser Paper. V. T. Renne. Bumazhnaya Prom. 13, No. 1:51-60 (1934); C. A. 28:3898.—Results of comparative tests of the U. S. S. R. and foreign condenser papers are discussed.—C. J. W.

Box Board. Fr. Schneider. Wochbl. Papier-fabr. 65, No. 9:147 (March 3, 1934).—The author first gives the properties desired of a box board and then describes its manufacture.—J. F. O.

Machine for the Production of Paper Wool. Papierfabrik, Fleischer, Eislingen. Ger. pat. 594,895 (Sept. 1, 1929).—J. F. O.

Economic and Safety Features of Cubicle Type Motor Control Units*

By E. H. Vicary[1] and K. L. Howe[2]

Abstract

The design, application and safety features of cubicle type motor control for squirrel cage, synchronous and wound rotor motors.

Metal enclosed switchgear *(1)* and power switching apparatus *(2)* have been discussed before the annual meetings of the Technical Association of the Pulp and Paper Industry. In these papers the subject of metal enclosed units has been treated from the standpoint of economy and safety with respect to power generating and distribution, particularly in the pulp and paper industry. Economics of manufacture and installation which have been proven for this type of construction can be realized more fully by extending the idea of group assembly of self-contained units to include motor control distribution center and starting units. The safety features assume major importance because of the greater number of men whose regular duties cause them to come in contact with the operation of the equipment.

This paper will deal with the design, application, and safety features of cubicle type motor control for squirrel cage, synchronous and wound rotor motors. Cubicle construction does not in any way limit the features of control design since all standard and special types of control are easily assembled in cubicle form. Excellent forms of standardized control equipment are available, but on the basis of apparatus cost only, proper consideration cannot be given to installation costs and circuit interrupting capacity, especially when a group of motors is involved. Motor cubicle control does not overlap the field of high capacity switchgear necessary for adequate feeder protection. This paper, therefore, begins at the feeder delivering power at motor voltage and is concluded with the installation of equipment within a single unit, that provides circuit protection as well as motor protection.

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* Presented at the fall meeting of the Technical Association of the Pulp and Paper Industry, Portland, Ore., Sept. 10 to 13, 1934.

[1] Engineer representing Crown Zellerbach Corporation, Olympic Forest Products Company, Rainier Pulp and Paper Company, and Grays Harbor Pulp and Paper Company.

[2] Engineer, Westinghouse Electric & Mfg. Co., Seattle, Wash.

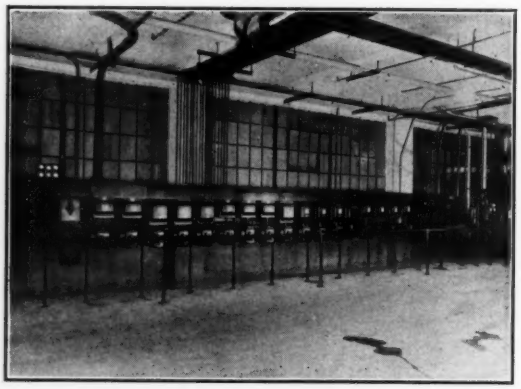

FIG. 1
440 volt switch rack showing conduit connections required with old form of construction.

Since construction features and installation costs are of primary importance in gaining a correct solution to the entire problem, it is necessary that a brief review be given of the previous forms of motor starting equipment.

Beginning with a fused knife switch as the only form of motor control, little was accomplished toward control development because of the interest in the induction motor. As late as 1915 bulky manually operated devices and magnetic switches in generously proportioned enclosures were all that were available. About 1920 interest in control equipment resulted in the development of magnetic starters which were compact, much more reliable and with a greatly extended life. An analysis of the time-current curve of the motor indicated that a much greater portion of the thermal capacity could be safely developed using a thermal overload relay. The first real advance in motor control development was thus attained, resulting in extensive installations and individual motorization of machines.

Old Type Construction

For years, standard mill construction for 600 volt power distribution consisted of grouping standard starters, either wall mounted or assembled on a frame work, above which a horizontal three-conductor copper bus was mounted within a completely enclosing sheet metal gutter box (Fig. 1). Incoming power connection was made to this bus. Immediately below the bus gutter box, fuses and knife switches were located on the supporting rack, usually in the form of fused safety switches with individual enclosing cabinets and external operating handles. Below the safety switches, one of the many available forms of oil immersed switches was mounted, equipped with inverse time limit overload protection. Conduit nipples of various sizes and lengths were used between the bus gutter and safety switch and then between the safety switch and the oil immersed switch. Conduit was then run from the motor side of the oil immersed switch to the motor location. This assembly of individual pieces of apparatus on the main switching rack with its interconnection of short conduit nipples was duplicated for each and every motor circuit.

Motor control of the desired type was usually mounted near the motor location, necessitating another break in the run of wiring between the bus and the motor to include the motor control. The cost of wiring materials and conduit together with labor and electrical apparatus represented an investment out of all proportion for the class of installation obtained. Also, labor and wiring materials were a total loss from the standpoint of salvage, when circuit changes or change of rating were required.

Safety codes, national standards, as well as operating practice, led to many variations in this combination. Municipalities have always superimposed special operating and safety requirements that further increased the cost of installation. Industries coming within municipality limits have been forced to carry the additional burden.

Switch rack construction also applied to 2200 volt service except that an exposed bus and disconnecting switches

represented common practice. (Fig. 2). The lower part of the switch rack contained an oil circuit breaker for each motor circuit, equipped with inverse time limit overload protection. The motor control, as in the case of low voltage equipment, was located close to the motor and entirely separate from the switch rack. Complicated as these systems now appear to be, they represented the best practice at the time they were installed.

An item of major importance in connection with switch rack construction was the necessity for providing special locations and enclosures where chemicals, sawdust or refuse materials deposited on electrical apparatus might jeopardize continuous operation. The solution to this special housing feature will be pointed out later in connection with cubicle construction.

The above discussion covers the important points of switch rack construction operating experience which indicated high first cost, lack of adequate circuit protection and a continual hazard to operators and maintenance men. Numerous interconnections between scattered pieces of equipment, combined with the exposed mounting, caused operating difficulties and circuit troubles.

New Form of Construction

Experience gained with various forms of switch rack construction has enabled such organizations as the Olympic Forest Products Company, the National Paper Products Company, the Weyerhaeuser Timber Company and the Washington Pulp and Paper Corporation, to carefully consider the advantages of a form of construction which would concentrate motor control and circuit protective features within a self-contained structure, so enclosed as to not require special housing in control vaults or separate control rooms. If the electrical problems can be answered through the proper selection and construction of electrical apparatus, and the question of special housing features can be disposed of, there is no reason why the self-contained unit cannot be delivered at its ultimate location by the electrical manufacturer completely assembled and wired, requiring only feeder service connections, individual motor lead connections and suitable external control wiring. Since an electrical manufacturer could not obtain complete installed costs of electrical apparatus, nor accurately determine all operating advantages, it remained for the engineering departments of such progressive industrial organizations as named above, to foster the actual development of the complete unit control known as cubicle construction.

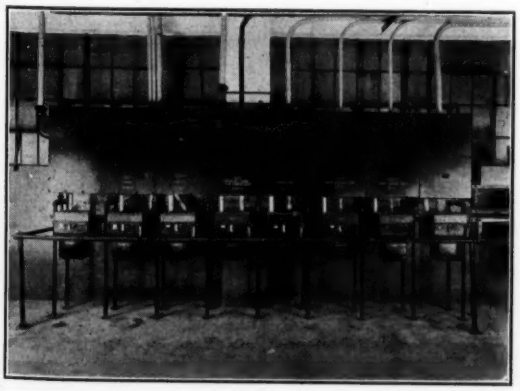

FIG. 2
2200 volt switch rack showing disconnecting switch structure and circuit breakers with conduit interconnection.

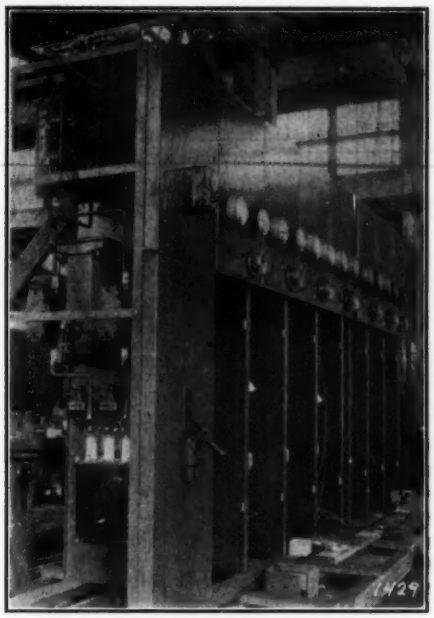

FIG. 3
2200 Volt Cubicle, partially completed for eight motors with feeder section. Note individual bus compartment barriers.

Cubicle Control

Cubicle control is distinctly divided into two separate classes: The first class involving all equipment and circuits 600 volts and below; and the second class applicable universally to 2300 volt circuits, with many 4000 volt circuits covered by the same analysis.

The plant of the Olympic Forest Products Company represents two distinct industries: a sawmill and a pulp mill. 2200 volt and 440 volt cubicles were laid out for all departments of the plant. Each group of 2200 volt cubicles varied in number between eight and twelve units; the 440 volt groups combined ten to thirty units. Each group was built in a continuous assembly, sub-dividing only the larger groups for shipping purposes. Each 2200 volt cubicle unit contained circuit disconnecting switches, control and protection for one motor, while each vertical section of the 440 volt assembly contained circuit disconnecting switches, control and protection for two motors 30 hp. and below. 440 volt motors 40 hp. and above required one entire vertical section.

Construction of the 2200 volt cubicles consists of a three-conductor bar copper bus running continuously throughout the length of a complete cubicle group. The bus passed from one cubicle to another through an insulating separator and was mounted within each cubicle on bus supports. Each bus was entirely enclosed thus providing barriers between buses, and isolation from other apparatus. A special feature of barrier supports is a very light gauge angle iron running the complete length of each flat barrier section in place of the small foot angle used on the conventional forms of construction. (Fig. 3). Taps from the bus were taken to disconnecting switches located in the upper portion of the cubicle operated through rear opening doors. The circuit from the disconnecting switches connected to circuit breakers of moderate rupturing capacity located in the lower portion of the cubicle. All circuit breakers were actuated by floor mounting solenoids operated from a d.c. control bus. Breakers were so selected that rupturing capacity fulfilled short circuit requirements

in any part of the plant. Each group of 2200 volt cubicles was served by a separate feeder controlled by a high capacity breaker located in the power house. In anticipation of an increased demand for circuit interrupting capacity, all major fault conditions which could be relayed at the individual cubicles were referred back to the feeder breakers located at the power house. Since the power house feeder breakers were operated from a station battery, instantaneous over-current devices mounted as auxiliary units in standard induction over-current relays on the individual cubicles, caused instantaneous tripping of the feeder breaker. Each group of cubicles was equipped with an induction type under-voltage relay which caused opening of all circuit breakers in the individual sections of a given group for under-voltage conditions. Suitable overload protection was, of course, contained within each unit to meet the particular motor requirement. All cubicle units with their circuit breakers served as motor control equipment actuated by push buttons installed at the remote locations. The required instruments and relays for each section were mounted on the front panel.

A similar construction arrangement was used for the 440 volt cubicles except that a three-conductor bus ran through the extreme top and extreme bottom portions of each group. (Fig. 4). Each 440 volt motor circuit starting at the bus, consisted of a front operated knife switch followed by a standard linestarter equipped with a thermal overload relay.

A review of the construction details of the 2200 volt cubicle units will clearly show that a group of cubicles can be delivered by the electrical manufacturers completely assembled and wired ready for location on a suitable foundation. (Fig. 5). It is then only necessary to make feeder connections directly to the bus, connect the various motor circuits to other respective circuit breakers within the cubicle structure, and install the necessary push button circuits for remote operation. Connection of a direct current operating voltage to the control bus running the length of the cubicle group makes the job complete, with a minimum of time and expense for installation. The principal factors contributing to saving in installation time are: that conduit and cable work can be finished to a single point of inter-connection before the cubicle is placed on its foundation, also metering circuits and control devices are completed within the cubicle by the electrical manufacturer. It should be feasible with a nominal sized electrical crew to complete the installation of a ten-unit cubicle within ten days after delivery of cubicle unit. The ease with which the preliminary work is installed and the simplicity of completing final connections should be compared with the

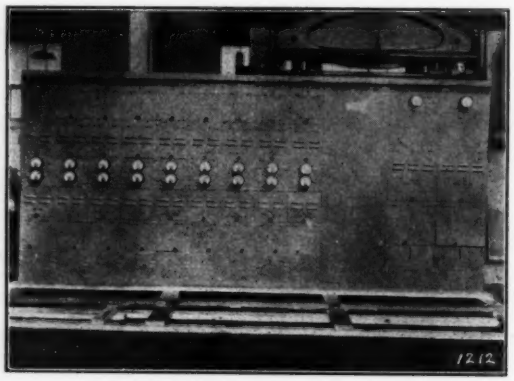

FIG. 4
440 Volt Cubicle group for 20 motors using knife switches for circuit disconnecting switches.

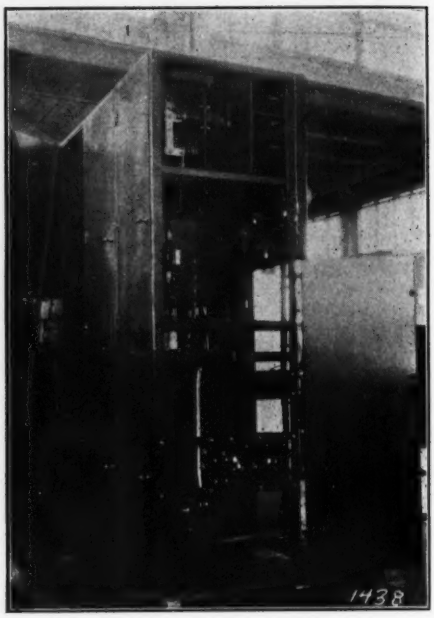

FIG. 5
Partially completed 2200 volt cubicle for control of synchronous motor. Full-size rear opening door. Front lower section hinged. Top front section stationary.

intricate system of inter-connection required by former switch rack construction. Cubicle construction also eliminates the expense of providing control vaults and special control rooms. Similar savings in installation and simplicity of construction apply to 440 volt cubicle control.

Safety, the Controlling Factor

Safety is the controlling factor in the proportioning of cubicle design. Mill operators and electrical maintenance men are given the benefit of maximum protection in the operation of this type of equipment, by reason of the following safety features.

These safety features are:

1. All live circuits are totally enclosed within each cubicle structure.
2. Door interlocks are provided to insure each compartment being clear if the section is opened.
3. Internal barriers are provided around bus and bus connections.
4. Maintenance men can be sure the correct disconnecting switches are open because they are segregated from others in the same group.
5. All current carrying parts are insulated for full circuit voltage.
6. Inexperienced operators can safely operate the control by remote push buttons.
7. The isolation of all electrical equipment prevents tampering by unauthorized persons.
3. Inspection and maintenance are aided by ample clearance. Maximum accessibility is obtained through full width swinging doors which can be provided on front and rear of each section.

All cubicle units are built on a frame of rigid standard structural steel shapes entirely self-supporting, and to which the sheet metal separators and partitions are later attached. This type of construction provides a unit which is entirely self-supporting, is a permanent housing, and if necessary can be moved without distortion of the assembly. The entire frame is supported on two channel

irons to provide a rigid relationship between adjacent units. All cubicles, whether for 2200 volt or 600 volt service, are so designed and constructed that additional units may be added to either end by a simple extension of the main bus in the upper part of the structure and a similar extension of the control bus and channel iron base. (Fig. 6).

During the past four years, occasional additions have been made to the 2200 volt and 600 volt cubicle groups. In each case general outline dimensions have been made to conform to the original installation. Variations in the arrangement of internal apparatus mounting and methods of accessibility have been altered to meet requirements. Swinging panels front and rear, one swinging panel, removable back section and disconnecting switches operated from either front or rear, are possible variations in arrangement. Special colors for voltage classification, individual control circuit switches for each cubicle, special metering equipment and complete relay systems for special motor control are readily obtainable.

FIG. 6
Addition units for existing 400 volt cubicles. Bus extensions shown.

Within the last year new switchgear developments have been incorporated in the design and construction of both the 600 volt and 2500 volt cubicles. The Westinghouse De-ion nofuze Circuit Breaker in 600 volt ratings, has been substituted for the safety switch or fused knife switch previously used between the bus and Linestarter. (Fig. 7.) These switches have an individual pole rating of 10,000 amperes interrupting capacity and afford complete circuit protection for 600 volt systems. The De-ion circuit breaker contains tripping characteristics for short circuit and inverse time limit protection. The line side of the De-ion circuit breaker is connected directly to the bus within the 600 volt cubicle while the load size connection is made to the Linestarter. The function of motor protection still remains with a thermal overload relay mounted in conjunction with the contactor forming the motor starter.

The De-ion circuit breaker applied to 600 volt cubicle construction resulted in space saving by re-arrangement of the relative location of the circuit breaker and the contactor for a given motor circuit. Only one main three-conductor bus is now built in to the complete length of the cubicle assembly. From this bus vertical feeder buses are installed for each pair of vertical sections. In the new design, for ratings 30 hp., 440 volts and below, it is possible to build four complete units in one vertical section, each unit consisting of De-ion circuit breaker and motor Linestarter. One vertical section will accommodate three larger units for motors 40 to 60 hp., 440 volts. Thus it is possible to arrange to feed eight complete motor control units from a single vertical bus. The depth of the De-ion circuit breakers is such that they are mounted directly in front of the vertical bus compartment. The complete depth of the cubicle is used for the Linestarter compartment. Segregation between individual buses is not attempted although a complete system of sectionalizing barriers is used throughout. The sectionalizing of the vertical bus is obtained by pairs of motor controls with a horizontal barrier acting as a bus spacer and bus support. No fuses are used in the 600 volt construction and a cubicle is delivered completely assembled and wired with or without ammeters, as desired. Feeder service connection is made to the main bus and the individual motor and push button circuits are taken off from the cubicle at the rear of their respective contactor compartments. This arrangement of conduit location to the individual motors provides absolute segregation of circuits and isolates circuit difficulties in such a manner that only one motor can be affected.

The Westinghouse type "BA" De-ion fuse recently applied to 2200 volt cubicles has resulted in important changes in the combinations of electrical equipment. The type "BA" 7500 volt De-ion fuse has an individual rating of 25,000 amperes interrupting capacity which is an equivalent three phase rating of 325,000 kv-a. When applied

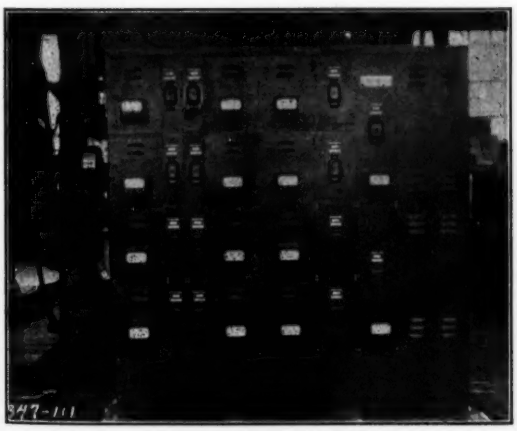

FIG. 7
Completed 440 volt cubicle for fourteen motors, using De-ion circuit breakers with safety covers over handle.

FIG. 8
2200 volt cubicle group for four reversing motors, using 7500 volt De-ion fuses and oil immersed contactors.

to a 2500 volt system the fuse has 25,000 ampere rating or an equivalent three phase rating of 108,000 kv-a. (Fig. 8). Mounting details for this fuse have been designed to permit using the total fuse-enclosing cartridge as a disconnecting switch with the fuse supported in the open position on the lower insulator by means of hinge pin supports. Also, by the use of a hook-stick, the fuse may be lifted entirely out of place when occasions demand complete removal of the fuse unit. A fuse of this type opens new possibilities with respect to the selection of apparatus for motor circuits within industrial plants, also the fuse is renewable in the field. As such a fuse will provide adequate circuit protection within the limits of its rupturing capacity and also serve as a disconnecting switch, standard oil immersed contactors and other conventional types of motor starters can be safely applied.

Oil Immersed Contactor

The oil immersed contactor for 2500 volt service is simply a continuation of the 600 volt magnetic contactor universally used for magnetic control operation. The oil immersed contactor is operated by means of an a-c coil which is continuously energized throughout the time that the contactor is closed, thus providing the simplest possible protection against loss of control voltage or loss of main power voltage. This feature of control operation is the principal distinction between standard contactor equipment operated from an a-c coil, and circuit breaker operation. Since a circuit breaker is latched in the closed position, some positive means of energizing the breaker tripping coil must be provided. Under-voltage devices cannot always be used and the cost of providing direct current tripping energy is an important factor. The complications of circuit breaker operation as motor control units, are eliminated through the use of a contactor which is not only a-c operated but is continuously energized when closed. Control voltage is obtained by using an operating transformer with a secondary rating suitable for the contactor coil circuit, while the primary is connected to the power feeder supplying power to the motor. Under-voltage therefore affects the motor and control simultaneously causing the contactor to open and remove power connection from the motor. The limited rupturing capacity of the oil immersed contactor has prevented its use as a circuit protective switch but when circuit protection is accomplished with the type "BA" De-ion fuse, the oil immersed contactor can be adapted to the function of motor control.

The contact opening thermal overload relay controls the coil circuit of the oil immersed contactor and the simplicity of standard linestarter control is attained.

Experiences with the installations of 600 volt cubicles demonstrated the economy of complete unit assembly by the electrical manufacturer. Complete circuit and apparatus protection is obtained with the De-ion nofuze circuit breaker, and all fuses are eliminated. Standard Linestarters and thermal overload relays are assembled into the most compact yet most accessible form. Even with this important space saving, each motor conduit connection is made to an individual contactor compartment for complete isolation of all circuits.

In the 2500 volt cubicle class, the use of oil circuit breakers demonstrated what could be accomplished with unit construction. The development of the De-ion fuse simplifies construction and apparatus selection, which further assists in the 2200 volt motor control problem. Complete unit assembly can be made by the electrical manufacturer to accomplish a unit construction that combines circuit disconnecting switches, circuit protection, motor control and motor protection.

Motor control cubicles in any voltage classification may contain any combination of apparatus for squirrel cage, wound rotor or synchronous motors, to eliminate the special control vault or control room, and as a means of reducing the installation time to a minimum. The character of this design guarantees greater safety to operators and maintenance men while the quality of internal construction permits electrical apparatus to function at maximum efficiency.

A review of these important features, combined with flexibility of construction, make cubicle type motor control units worthy of consideration for new mill projects and rehabilitation of existing plants.

Literature Cited

(1) "The Use of Metal Enclosed Switchgear in Paper Mill Electrification." By M. H. Hobbs, February, 1933, TAPPI, New York.
(2) "Switchgear Developments of Interest to the Pulp and Paper Industry." By G. M. Reed, February, 1934, TAPPI, New York.

TAPPI Lake States Section Will Meet

The Lake States Section of the Technical Association of the Pulp and Paper Industry will hold its first meeting of the fall season on October 9. The following officers have been elected for the coming year: A. T. Gardner, Chairman; S. D. Wells, Vice Chairman; R. L. Davis, Secretary-Treasurer.

Mr. G. H. McGregor who was elected Secretary-Treasurer last spring has resigned from the Institute of Paper Chemistry to accept a position with the Pulp Division of the Weyerhaeuser Timber Company, Longview, Wash., and Mr. Davis has been appointed in his place.

Zinc Pigments for Opacity in Paper

The New Jersey Zinc Company, with offices at 160 Front street, New York, has just issued an interesting and informative booklet describing "Zinc Pigments for Opacity In Paper."

This company has pioneered in the development of zinc products and its research laboratories are unusually well equipped to carry out the fundamental investigation of pigments and to study their application in the paper industry.

Copies of the booklet may be obtained upon application.

TAPPI Convention Souvenir Program

The souvenir program of the recent TAPPI convention at Portland, Ore., contains a complete description of the Pacific Coast paper mills. There are a number of copies available and S. Hodges, secretary of the Pacific Section, with headquarters at 2860 North West Front Avenue, Portland, Ore., will be pleased to forward these upon receipt of postage amounting to 15 cents per copy.

University of Maine Paper School Opens

The Department of Pulp and Paper Technology at the University of Maine, Orono, Me., has just opened for another school year with 16 upper classmen, one graduate student, William Robert Young of the Scott Paper Company, and six freshmen, two of whom, Ernest F. Andrews of Ticonderoga, N. Y., and Virgil R. Wright of Livermore Falls, Me., are International Paper Company scholarship students.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING SEPTEMBER 29, 1934

CIGARETTE PAPER

Champagne Paper Corp., Pipestone County, Havre, 520 cs.; Champagne Paper Corp., Indep. Hall, St. Nazaire, 882 cs.; H. H. Strauss, Indep. Hall, Bordeaux, 212 cs.; P. J. Schweitzer, Pr. Garfield, Marseilles, 2 cs.

WALL PAPER

R. F. Downing & Co., Tokai Maru, Kobe, 9 bls.; ———, Aquitania, Southampton, 1 cs.

NEWSPRINT

Jay Madden Corp., Scanyork, Wiborg, 600 rolls; Lunham & Reeve, Inc., Scanyork, Wiborg, 199 rolls; H. G. Craig Co., Donnacona II, Montreal, 574 rolls; Jay Madden Corp., Gen. von Steuben, Bremen, 131 rolls; Newspaper & Magazine Paper Corp., Hektor, Port Alfred, 108 rolls; Perkins Goodwin & Co., Deutschland, Hamburg, 768 rolls; ———, Stavangerfjord, Oslo, 135 rolls.

PRINTING PAPER

Ozalid Corp., Statendam, Rotterdam, 23 cs.

WRAPPING PAPER

Walker Goulard Plehn Co., Pr. Harding, Hamburg, 2169 rolls; M. M. Cohen, Pr. Harding, Hamburg, 167 rolls.

PACKING PAPER

Scharff Bros., Statendam, Rotterdam, 3 cs.

PARCHMENT PAPER

J. Beckhard, Statendam, Rotterdam, 1 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., American Farmer, London, 6 cs.

SURFACE COATED PAPER

Gevaert Co. of America, Black Falcon, Antwerp, 19 cs.; Globe Shipping Co., Gen. von Steuben, Bremen, 43 crates; Metropolitan Importing Co., Deutschland, Hamburg, 6 cs.; Chas. Happel, Pr. Harding, Hamburg, 1 cs.

BASIC PAPER

Globe Shipping Co., Gen. von Steuben, Bremen, 11 cs.

METAL COATED PAPER

K. Pauli Co., Deutschland, Hamburg, 2 cs.

PHOTO PAPER

J. J. Gavin, Aquitania, Southampton, 3 cs.; American Express Co., Deutschland, Hamburg, 39 cs.

TISSUE PAPER

F. C. Strype, Laconia, Liverpool, 4 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Laconia, Liverpool, 6 cs. (simplex).

DECALCOMANIAS

Phoenix Shipping Co., Bremen, Bremen, 2 cs.; Selles Transportation Co., Bremen, Bremen, 23 cs.

TRANSFER PAPER

Hensel Bruckman & Lorbacher, Deutschland, Hamburg, 24 cs.

COLORED PAPER

International F'd'g Co., Deutschland, Hamburg, 5 cs.

IVORY BOARD

Safran & Glucksman, Statendam, Rotterdam, 4 cs.; R. Wilson Paper Corp., Statendam, Rotterdam, 32 rolls.

LITHO PAPER

Senefelder Co., Taketoyo Maru, Canton, 15 cs.

CARD BOARD

Rohner Gehrig Co., Ile de France, Havre, 4 cs.; ———, Deutschland, Hamburg, 51 cs.

PAPER BAGS

J. B. Mast & Co., Conti di Savoia, Genoa., 6 cs.

MISCELLANEOUS PAPER

Walker Goulard Plehn Co., Statendam, Rotterdam, 13 bls.; Corn Exchange Bank Trust Co., Tokai Maru, Osaka, 12 cs.; T. N. Fairbanks, Tokai Maru, Yokohama, 7 cs.

RAGS, BAGGINGS, ETC.

New England Waste Co., Statendam, Rotterdam, 156 bls. cotton waste; E. J. Keller Co., Inc., Pipestone County, ———, 42 bls. rags; E. J. Keller Co., Inc., Black Falcon, ———, 293 bls. rags; E. J. Keller Co., Inc., Black Falcon, ———, 248 bls. bagging; Leigh Textile Co., Black Falcon, Antwerp, 43 bls. cotton waste; N. Schwab & Son, Black Falcon, Antwerp, 95 bls. cotton waste; Chase National Bank, American Farmer, London, 7 bls. paper stock; Banco Com'l Italiane Trust Co., American Farmer, London, 61 bls. rags; J. Cohen & Son, American Farmer, London, 13 bls. paper stock; Castle & Overton, Inc., Cold Harbor, Dublin, 68 bls. paper stock; E. J. Keller Co., Inc., Indep. Hall, ———, 467 bls. rags; E. J. Keller Co., Inc., Deutschland, ———, 59 bls. rags; Globe Sanitary Products Corp., Tokai Maru, Osaka, 50 bls. rags.

BONE GLUE

———, Deutschland, Hamburg, 125 bags.

OLD ROPE

———, American Farmer, London, 64 coils.

CASEIN

American British Chemical Supplies, West Selene, B. Ayres, 417 bags, 25,020 kilos; D. C. Andrews & Co., Deutschland, Hamburg, 50 bags.

WOOD PULP

Lagerloef Trading Co., Scanyork, Wiborg, 3870 bls. sulphite, 765 tons; New Haven Pulp & Board Co., L. A. Barnes, Bridgewater, 5472 bls. wood pulp; New Haven Pulp & Board Co., L. A. Barnes, Bridgewater, 185 half bls. wood pulp; Castle & Overton, Inc., Deutschland, Hamburg, 280 bls. wood pulp, 56 tons; Bank of N. Y. Trust Co., Deutschland, Hamburg, 150 bls. wood pulp, 31 tons; Irving Trust Co., Stavangerfjord, Oslo., 450 bls. wood pulp; The Borregaard Co., Inc., Stavangerfjord, Sarpsborg, 168 bls. sulphate; E. J. Keller Co., Inc., Pr. Harding, ———, 330 bls. wood pulp, 51 tons; Bulkley Dunton & Co., Belos, ———, 3000 bls. wood pulp, 600 tons; M. Sone, Scanmail, Helsingfors, 300 bls. wood pulp, 50 tons.

PULPWOOD

International Paper Co., Malmen, Newcastle, N. B., 1800 cords.

ALBANY IMPORTS

WEEK ENDING SEPTEMBER 29, 1934

Interhational Paper Co., Fagersten, Gaspe, 1500 cords pulpwood; Atterbury Bros., Inc., Tana, Tofte, 3000 bls. sulphite; Perkins Goodwin & Co., Tana, Tofte, 550 bls. sulphite; Price & Pierce, Ltd., Tana, Graaker, 2000 bls. sulphite; Pagel Horton & Co., Inc., Tana, Gefle, 4000 bls. sulphite; ———, Tana, Gefle, 625 bls. sulphite; ——— Tana, Stugsund, 450 bls. sulphite; Gottesman & Co., Inc., Tana, Stugsund, 3600 bls. sulphite; Lagerloef Trading Co., Tana, Wiborg, 1224 bls. sulphite; Irving Trust Co., Tana, Wiborg, 162 bls. sulphate; Castle & Overton, Inc., Tana, Wiborg, 3944 bls. wood pulp; Perkins Goodwin & Co., Belos, Soderhamn, 1150 bls. sulphite, 233 tons; Perkins Goodwin & Co., Belos, Soderhamn, 6665 bls. sulphate, 1354 tons; Bulkley Dunton & Co., Belos, ———, 850 bls. wood pulp, 150 tons; ———, Belos, Hernosand, 9600 bls. sulphate, 1600 tons; Perkins Goodwin & Co., Belos, Sundsvall, 996 bls. sulphate, 166 tons; Johaneson Wales & Sparre, Inc., Belos, Sundsvall, 1350 bls. sulphite, 225 tons; Bulkley Dunton & Co., Kelkheim, ———, 1350 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING SEPTEMBER 29, 1934

Gottesman & Co., Inc., Tisnaren, Sweden, 1875 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING SEPTEMBER 29, 1934

Ayres W. C. Jones Co., Pipestone County, Havre, 23 bls. cotton waste; ———, Pipestone County, Havre, 230 bls. bagging; G. F. Malcolm, Inc., Laconia, Liverpool, 19 cs. tissue paper. L L

NEW HAVEN IMPORTS

WEEK ENDING SEPTEMBER 29, 1934

New Haven Pulp & Board Co., L. A. Barnes, Bridgewater, 4806 bls. wood pulp; New Haven Pulp & Board Co., L. A. Barnes, Bridgewater, 555 hlf bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING SEPTEMBER 29, 1934

Lagerloef Trading Co., Scanyork, Wiborg, 1270 bls. sulphite, 234 tons; J. W. Hampton Jr. & Co., Scanyork, Wiborg, 65 rolls newsprint; Lagerloef Trading Co., Scanyork, Helsingfors, 675 bls. sulphite, 131 tons; Castle & Overton, Inc., Pipestone County, Dunkirk, 49 bls. new cuttings; E. J. Keller Co., Inc., Pipestone County, ———, 99 bls. rags; E. J. Keller Co., Inc., Indep. Hall, ———, 158 bls. rags; National Waste Co., Tokai Maru, Osaka, 100 bls. cotton waste; Gottesman & Co., Inc., Segundo, Sweden, 1000 bls. wood pulp; Bulkley Dunton & Co., Binnendyk, ———, 270 bls. wood pulp.

NEWPORT NEWS IMPORTS

WEEK ENDING SEPTEMBER 29, 1934

Gottesman & Co., Inc., Tisnaren, Sweden, 3000 bls. wood pulp; Bulkley Dunton & Co., Tisnaren, ———, 550 bls. wood pulp; Bulkley Dunton & Co., City of Havre, ———, 900 bls. wood pulp.

HOUSTON IMPORTS

WEEK ENDING SEPTEMBER 29, 1934

E. J. Keller Co., Inc., Floride, ———, 90 bls. bagging.

CHARLESTON IMPORTS

WEEK ENDING SEPTEMBER 29, 1934

———, Taketoyo Maru, Shanghai, 206 bls. bagging.

BALTIMORE IMPORTS

WEEK ENDING SEPTEMBER 29, 1934

———, Tana, Ornskoldsvik, 900 bls. sulphate, 150 tons; Bank of Manhattan Co., Tan, Ornskoldsvik, 3900 bls. sulphate, 650 tons; Pagel Horton & Co., Inc., Tana, Ornskoldsvik, 2472 bls. sulphate, 400 tons; ———, Tana, Ornskoldsvik, 3519 bls. sulphate, 575 tons; ———, Tana, Gefle, 375 bls. sulphite; Tradesmans Natl Bank, Tana, Gefle, 111 bls. sulphate; Lagerloef Trading Co., Tana, Viipuri, 926 bls. sulphate; Lagerloef Trading Co., Tana, Viipuri, 1037 bls. sulphite; ———, Tana, Viipuri, 147 rolls newsprint; Castle & Overton, Inc., Tana, Viipuri, 3087 bls. wood pulp; S. Shapira & Son, Taketoyo Maru, Yokohama, 170 bls. rags; Congoleum Nairn Co., Examelia, Marseilles, 102 bls. rags; Guaranty Trust Co., Tokai Maru, Osaka, 125 bls. rags; Gottesman & Co., Inc., City of Hamburg, Latvia, 1016 bls. wood pulp; Bulkley Dunton & Co., Binnendyk, ———, 1080 bls. wood pulp.

Reports Wage Increase Will Be Announced

[FROM OUR REGULAR CORRESPONDENT]

FORT EDWARD, N. Y., October 1, 1934—Representatives of the employees organization at the local branch of the International Paper Co. returned this week from a general council session held in New York City and reported that a wage increase will be announced in the near future. It is said that the increase will be placed in effect in November and will amount to about five per cent. John L. Sullivan and William Davidson represented the local body at the conference.

Property owned by the company here is now being converted into a recreation building following a request from employees. The structure was recently damaged by fire and several weeks will be required for repairs before it can be used for recreational purposes.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, October 3, 1934.

Some improvement has transpired in the demand for the various standard grades of paper. Inquiries for future account are becoming more numerous, indicating more lively trading in the near future. Sales forces of the leading paper organizations are generally optimistic over the outlook. Prices are holding to schedule.

The newsprint paper market is fairly active. Manufacturing operations in the United States, Canada and Newfoundland are being maintained in adequate volume to take care of current requirements. Advertising lineage and circulations of the leading newspapers are still running ahead of the preceding year. The price situation remains unchanged.

Sentiment in the fine paper market is gradually improving and the outlook for the closing months of the year is considered bright. Tissues are moving in good volume for the season. The coarse paper market is displaying strength, with specialties in excellent request. Demand for paper board is brisker and prices are well maintained

Mechanical Pulp

The position of the ground wood pulp market is practically unchanged. Production in North America and abroad is keyed to consumption and the statistical record of the industry is fairly sound. Mechanical pulp quotations are generally holding to previously reported levels and reports of concessions are infrequent.

Chemical Pulp

Steadiness prevails in the chemical pulp market. The recent breakdown of the European price agreements has had no effect on the American market. The agreement covering the curtailment of production abroad is still in force. Prices of both imported and domestic grades are well sustained.

Old Rope and Bagging

The old rope market is arousing more interest from the paper mills. There are a number of inquiries around for domestic and foreign old manila rope, some of which should materialize into good orders. Small mixed rope is fairly active. The bagging market is spotty. Gunny bagging is firm, with offerings limited, but scrap bagging is dull.

Rags

Demand for domestic rags is irregular. New cotton cuttings are in good request, especially No. 1 white shirt cuttings, for which there are numerous export inquiries. Roofing grades are slightly firmer. The imported rag market is still affected by fluctuations of foreign exchange and quotations are nominal.

Waste Paper

The lower grades of paper stock are listless, with the board mills showing little interest in the market. The National Recovery Administration has extended the minimum price of $6.50 a ton for No. 1 mixed paper to cover all mixed paper, permitting members of the trade to resell to other members at $6 a ton for mixed paper and $7.50 a ton for folded news. In the original order the minimum price for folded news was $8.50 a ton.

Twine

Most of the business transacted in the local twine market during the past week was along routine lines. There are more inquiries being received, however, and the outlook for the closing months of the year is encouraging. Prices are fairly steady, despite the usual keen competition for desirable orders.

Joins Johaneson, Wales & Sparre

Leif B. Norstrand, on October 1, became associated with Johaneson, Wales & Sparre, wool pulp agents, 250 Park avenue, New York.

Mr. Norstrand was formerly connected with the Norstrand Manufacturing Company and the Saranac Pulp and Paper Company of Plattsburg, N. Y., where he was assistant manager until the sale of the properties to Berst-Forster Dixfield Company in 1930.

Since 1930 Mr. Norstrand was manager of the Berst-Forster Dixfield Company's plant in Plattsburg and for the past year has been located in their New York office, in charge of purchasing.

Mr. Norstrand is a graduate of Dartmouth College, is married and resides in Bronxville, N. Y.

Trenton as Port of Entry Not Recognized

In the issue of the PAPER TRADE JOURNAL of September 20 appeared a report to the effect that the Executive Authority, Pulp Division of the Paper and Pulp Industry, had recognized Trenton as an official port of entry for wood pulp. It has been learned, however, that the recognition of Trenton as an official port is still under discussion by the Pulp Executive Authority.

Gunnar Dahlquist to Visit Paper Mills

Gunnar Dahlquist, of Kalix Träindustriaktiebolag, Vanafjärden, Sweden, arrived in New York last Saturday. During his stay in America he will inspect all the paper mills in the Eastern and Middle-Western sections of the United States. Mr. Dahlquist is making his headquarters with J. Andersen & Co., 21 East 40th street, New York, N. Y.

Crane Paper Mills More Active

DALTON, Mass., October 1, 1934—Business of Crane & Co., paper manufacturers, has increased sufficiently so that the Pioneer and Government mills were put on a five-day week September 24, in place of four days. The Bay State mill is being kept on the four-day basis for the present.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, October 3, 1934.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Prices are holding to schedule. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling at from 3½ cents to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Although the bleaching powder market is only moderately active, quotations remain steady and unchanged. The contract movement is normal. Bleaching powder is quoted at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market is quiet. Domestic standard ground is quoted at 10¾ cents and finely ground at 11¼ cents per pound. Argentine standard ground is offered at 13 cents and standard ground at 13¼ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. Prices are holding to schedule. Solid caustic soda is quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3 to $3.05 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is displaying strength. Imported china clay is quoted at from $13.50 to $21 per ton, ship side. Effective October 1, minimum prices were established on domestic paper making clay at from $6.50 to $12 per ton, at works.

CHLORINE.—Demand for chlorine is fairly persistent. The contract movement is well up to average. Prices are steady and unchanged. Chlorine is quoted at from $2 to $2.25 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is stronger. Paper making G gum rosin is quoted at $4.30 and FF wood rosin at $4.30 per 280 pounds, gross weight, in barrels, at southern points. Seventy per cent rosin size is selling at $2.55 per 100 pounds, in tank cars, at works.

SALT CAKE.—Business in the salt cake market is improving. Prices are firm. Salt cake is quoted at from $12 to $14, and chrome salt cake at from $12 to $12.50 per ton, at works. Imported salt cake is selling at from $12 to $12.50 per ton, at works.

SODA ASH.—Conditions in the soda ash market are fairly satisfactory. Contract shipments are moving in good volume. Prices are steady. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.10; in bags, $1.40; and in barrels, $1.50.

STARCH.—The starch market is marking time. The prevailing demand is routine. Prices are holding to schedule without difficulty. Special paper making starch is quoted at $3.57 per 100 pounds, in bags; and at $3.84 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Paper mill demand for sulphate of alumina is well maintained. Prices are holding to schedule. Commercial grades are quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and nearby car loads, the quotation is $21 per ton.

TALC.—Trading in the talc market is moderately active. Prices are generally holding to schedule. Domestic talc is still quoted at from $16 to $18 per ton, in bulk, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

(F. o. b. Mill)			
Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho.	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.82½	@	.85
White No. 2	.67½	@	—
Anti-Tarnish M. G. only	1.00	@	—
Colored	.85	@	—
Kraft	.70	@	—
Manila	.67½	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	4.00	@	4.50
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.50	@	3.50
Glassine—			
Bleached	.11	@	—
Unbleached	.09	@	—

(The following Quotations are Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Kraft—			
No. 1 Domestic	4.75	@	5.00
No. 2 Domestic	3.87½	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	40.00	@	45.00
Chip	37.50	@	40.00
Sgl. Mla. Ll. Chip	47.50	@	52.50
Jute Lined Chip	47.50	@	52.00
White Patent Coated	60.00	@	65.00
Binders Boards	67.00	@	75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	22.00	@	24.00
Dry	23.00	@	24.00

(F.o.b. Mill)

No. 1 Domestic and Canadian	22.00	@	26.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.85	@	—*
Division 2	2.80	@	—*
Division 3	2.75	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.25	@	—*
Other Than Easy Bleaching—			
Class 2. Higher Than Standard	2.20	@	—*
Class 3. Standard	2.15	@	—*
Class 4. Lower than Standard	2.10	@	—

(On Dock, Atlantic Ports)

Kraft No. 1	1.70	@	1.80
Kraft No. 2	1.55	@	1.65

(F.o.b. Pulp Mill)

Kraft Domestic	1.70	@	2.25

(Delivered)

Soda Bleached	2.50	@	—

*Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	5.75	@	6.00
Silesias No. 1	3.75	@	4.00
New Unbleached	6.25	@	6.50
New Soft Blacks	3.00	@	3.25
Blue Overall	3.50	@	3.75
Fancy	2.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.10	@	1.25
No. 2	.80	@	.85
No. 3	.70	@	.75
No. 4	.65	@	.70
No. 5A	.60	@	.65

Foreign Rags

New Rags

New Dark Cuttings	1.60	@	1.70
New Mixed Cuttings	1.75	@	1.85
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.40	@	1.60
Dark Cottons	1.00	@	1.10
Old Shopperies	.95	@	1.00
New Shopperies	.90	@	1.00
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.40	@	1.50
Wool Tares, light	1.20	@	1.30
Wool Tares, heavy	1.20	@	1.30
Bright Bagging	1.15	@	1.25
Manila Rope—			
Foreign	2.35	@	2.45
Domestic	2.25	@	2.50
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.70	@	2.80
Ordinary Hard White No. 1	2.15	@	2.25
Hard White No. 2	1.95	@	2.05
Soft White No. 1	1.85	@	1.95
Flat Stock—			
Stitchless	.80	@	.90
Over issue Mag.	.80	@	.90
Solid Flat Book	.65	@	.75
Crumpled No. 1	.60	@	.65
Solid Book Ledger	1.50	@	1.65
Ledger Stock	1.00	@	1.10
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.70	@	1.80
New Cuttings	1.35	@	1.45
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.15	@	1.25
Strictly Overissue	.65	@	.70
Strictly Folded	.42½	@	.50
No. 1 Mixed Paper	.32½	@	.40

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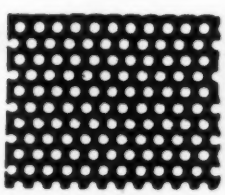

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Twines

(F. o. b. Mill)

Cotton—			
B. C. 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finisaed Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.15	@	.16
Tube Rope—			
4-ply and larger	.09¼	@	.09¾
Fine Tube Rope—			
4-ply	.11¼	@	.11¾
3-ply	.14¼	@	.14¾
2-ply	.14¼	@	.14¾
Paper Makers Twine	.08¼	@	.13¼
Box Twine, 2-3 ply	.14½	@	.14¾
White Hemp	.13¼	@	.16¾
Java Sisal—			
No. 1 Basis	.11½	@	—
No. 2 Basis	.10½	@	—
New Zealand Sisal	.11½	@	—
Sisal Lath Yarn—			
No. 1	.13½	@	.15½
No. 2	.11½	@	.13½
Manila Twine	.24½	@	.29½

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond	.12	@	.50
Water Marked Sulphite Bond	.06¼	@	.11
Sulphite Bond	.05½	@	.11
Superfine Writing	.18	@	.24
No. 1 M F Book	.06½	@	.07¼
No. 2 M F Book	.05¼	@	.06¼
No. 1 S &S.C. Book	.06¼	@	.07¼
No 2 S &S.C. Book	.05¼	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05¼
No. 1 Fibre	.04¼	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.05¼
Sulphite Screenings	.03	@	.03½
Manila Tissue	.05¼	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	41.00	@	—
Sheets, open	46.00	@	51.00
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.70	@	.80
Solid Books	.60	@	.70
Blanks	1.00	@	1.05
Kraffa	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.50	@	.55
Overissue News	.60	@	.70
Old Newspapers—			
No. 1	.50	@	.55
Mixed Papers—			
No. 1	.30	@	.35
Roonng Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(Delivered Philadelphia)

Bonds	.05-9/10	@	.38
Ledgers	.06 9/10	@	.40
Writings—			
Fine No. 3	.05	@	.06
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Book, M. F.	.05¼	@	.06¼
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06½	@	.09
Coated Lithograph	.06¾	@	.08½
Offset	.07	@	.11
No. 1 Jute Manila	6.25	@	—
Manila Sul., No. 1	5.25	@	—
Manila No. 2	3.00	@	—
No. 1 Kraft	5.00	@	—
Southern Kraft	4.75	@	—
Common Bogus	03	@	.04½
News Print Rolls	46.00	@	55.00
Straw Board	40.00	@	45.00
News Board	50.00	@	—
Chip Board	45.00	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.65
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01½	@	.02
Blue Overall	.03½	@	.04
Cottons—According to grades—			
Washable, No. 2	.02½	@	.03
New Blue	.01½	@	.03
Fancy	.01½	@	.03
New Black Soft	.02	@	.04
New Light Seconds	.01½	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.04
No. 2 Mixed	.03	@	.04
Corduroy	.02	@	.03
New Canvas	.03½	@	.04½
New Black Mixed	.02½	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.50
Miscellaneous	1.75	@	2.25
M. G.	3.00	@	3.75
Fards and Blues—			
Miscellaneous	1.00	@	1.50
Repacked	1.50	@	2.00
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.85

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.25	@	2.30
No. 2 Hard White	1.90	@	2.00
No. 1 Soft White	1.80	@	1.85
No. 2 Soft White	1.25	@	1.30
No. 1 Mixed	—	@	.75
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.10	@	1.20
No. 1 Books, heavy	.65	@	.70
No. 1 New Manila	1.35	@	1.40
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.15	@	1.20
No. 1 Mixed Paper	.32½	@	—
Straw Board Chip	.30	@	—
Binders Board Chip	.30	@	—
Corrugated Board	.50	@	—
Overissue News	.60	@	—
Old Newspapers	.42½	@	—

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.07¾	@	.11
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¼
Manila, Sul. No 2	.03¾	@	.04½
No. 1 Kraft	.04¾	@	.05
No. 2 Kraft	.03½	@	.04½
(F. o. b. Boston)			
Southern Kraft	.03½	@	.04½
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
(Delivered New England points)			
News Print, rolls	44.50	@	—
Straw Board, rolls	.009	@	35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	40.00	@	45.00
Chip Board	37.50	@	40.00
Chip Board (Creasing)	37.50	@	40.00
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated News Board (Bender)	57.50	@	65.00
Wood Chip Board	70.00	@	75.00
Binder Boards (Standard Grade)	67.00	@	75.00

Old Papers

(F. o. b Boston)

Shavings—			
No. 1 Hard White	2.20	@	2.35
No. 1 Soft White	1.75	@	2.00
No. 2 Mixed	.80	@	.85
Solid Ledger Books	1.75	@	—
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.95	@	1.05
No. 1 Books, heavy	.85	@	.90
No. 1 Books, light	.65	@	.75
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.65	@	.70
White Blank News	1.10	@	1.15
No. 1 Kraft	1.05	@	1.10
Manila	.55	@	.60
No. 1 Mixed Papers	.32½	@	.35
Print Manila	.45	@	.50
Overissue News	.50	@	.55
Old Newspapers	.42½	@	.45
Box Board Chips	.32½	@	.35
Corrugated Boxes	.32½	@	.40
Screening Wrappers	.50	@	.60

Bagging

(F. o. b. Boston)

Manila Rope—			
Foreign	—	@	1.75
Domestic	1.90	@	2.00
Transmission Rope	.90	@	1.00
Mixed Strings	.40	@	—
Jute Rope	1.35	@	1.40
Jute Carpet Threads	.65	@	.70
Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.25	@	—
Bleachery Burlap	4.00	@	4.50
Scrap Burlap	1.05	@	1.10
Scrap Sisal	1.10	@	1.20
Scrap Sisal for shredding	1.00	@	1.25
Wool Tares, heavy	1.25	@	1.30
New Burlap Cuttings	1.45	@	1.50
Australian Wool Pouches	2.00	@	2.25
Heavy Baling Bagging	1.40	@	1.50
Paper Mill Bagging	.90	@	1.10
Bagging No. 2	.50	@	.55

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.01¾	@	.02
New White No. 1	.05½	@	.06
New White No. 2	.03½	@	.04
Silesias No. 1	.04	@	—
New Black Silesias	.02½	@	.03
New Unbleached	.05½	@	.06
Blue Cheviot	—	@	4.65
Fancy	—	@	.02½
Washable	.02¼	@	—
Cottons—According to grades—			
Blue Overalls	—	@	03¾
New Black, soft	04	@	04
Khaki Cuttings	.03	@	.03¼
O. D. Khaki	.02¾	@	.03
Corduroy	.01¾	@	.02
New Canvas	—	@	05
B.V.D. Cuttings	—	@	.06¼

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	04½	@	
White No 1—			
Repacked	—	@	3.00
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	2.00	@	2.75
Miscellaneous	2.00	@	2.25
Twos and Blues	1.25	@	1.50
Thirds and Blues			
Repacked	2.00	@	2.75
Miscellaneous	2.00	@	2.25
Black Stockings	2.25	@	2.50
Roofing Stock			
No. 1	.70	@	.75
No. 2	.65	@	.70
No. 3	.55	@	.60

Foreign Rags

(F. o. b. Boston)

Dark Cottons	.85	@	.95
New White Shirt Cuttings	5.50	@	6.00
Dutch Blues	2.00	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.55	@	1.60
Old Linsey Garments	1.25	@	1.35

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¼	@	—
No. 2 Colored	.09	@	.10
Ledgers (sulphite)			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.20	@	—
No. 3 M. F. (Carloads)	5.70	@	—
No. 4 M. F. (carloads)	4.75	@	—
No. 1 S. C. (carlots)	6.65	@	—
No. C. (carlots)	6.20	@	—
No. C. (carloads)	5.20	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.25	@	—
White Wrap	2.22½	@	—
"B" Manila	4.75	@	—
No. 1 Manila	5.25	@	—
Fiber	5.25	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.25	@	—

(F.O.B. Cars Toronto)

News per ton—			
Rolls (contract)	39.50	@	—
Sheets	44.50	@	—

Pulp

(F. o. b. Mill)

Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	50.00	@	55.00
Sulphate	50.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.30
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock	.80	@	.90
Ledgers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.50
Printed Manilas	.70	@	.60
Kraft	1.25	@	1.50
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.60	@	—
No. 1 Mixed Paper	.50	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.06	@	.06¼
Fancy Shirt Cuttings	.02¼	@	.02½

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Foam is one of the evils of paper making which should be eliminated at its source, rather than by the addition of remedies. The use of prepared foam killers is not only expensive, but in many instances they destroy sizing and cause trouble on the paper machine.

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BENNETT INCORPORATED

CAMBRIDGE, MASS., U. S. A.

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